EPI: S03-E14H4

L131 ANSWER 44 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1978-30602A [17] WPIDS
TITLE: Gels containing antibodies **immobilised** by ion exchange - on weakly basic polymer, for immunochemical **protein** determn..
DERWENT CLASS: A11 A14 A96 B04 **S03** S05
INVENTOR(S): BOSCHETTI, E
PATENT ASSIGNEE(S): (SEBI-N) SOC SEBIA
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
FR 2359849	A	19780331	(197817)*			

PRIORITY APPLN. INFO: FR 1976-22802 19760727
INT. PATENT CLASSIF.: C07G007-00; C08B037-12; G01N033-16
BASIC ABSTRACT:
FR 2359849 A UPAB: 19930901
Dehydrated or rehydratable **agarose** or agar-agar gels is prepared by incorporating antibodies **immobilised** by ion exchange on a weakly basic polymer (I) present in the gel network. The gel may be derived from normal or high-purity **agarose**, **agarose** with high electroendo-osmotic props. or agar-agar.

(I) is pref. "Separan CP-35" (RTM: for a polyacrylate) or a semisynthetic material such as diethylaminoethyl (DEAE)-dextran; a heteropolymer made by polymerisation of acrylamide in DEAE-dextran solution, or a copolymer of acrylamide with DEAE-dextra. PRef. the gels are cast as **films** on a polyester support, especially "Scotch-par L-13" or "Cronar Clear Base C-72" (RTM's).

Used in determination of serum **proteins** by e.g. radial immunodiffusion, electro-immunodiffusion or two-dimensional immunoelectrophoresis. Tendency of the antibody to **migrate** in the dehydrated gel is eliminated, but when the gel is rehydrated the antibody is uniformly distributed and the product is equivalent to a fresh gel. After use the antibody is eliminated by washing with 0.9% NaCl solution
FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB
MANUAL CODES: CPI: A03-A; A12-M; A12-V; A12-W11B; B04-B04A; B04-B04C; B04-C02; B04-C03; B11-C07A; B12-K04

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the device, where the FRMRS has a molecular recognition site which functions as a binding site for a ligand associated with a cell or an extracellular matrix of a cell, and so that a force applied to a terminus of the polypeptide disrupts the association of the first and second alpha -helix or beta -strand or beta -sheet or beta -barrel secondary or tertiary structures, where binding of a ligand to the molecular recognition site can occur when they are in association, so that upon optical excitation of D, the emission spectrum is altered after force activation, when the cell moves, force is applied to the FRMRS such that a detectable signal change is generated;

(2) a molecule-specific sponge capable of binding a particular target molecule, the sponge comprising a number of FRMRS as above, each switch containing a binding site for the target molecule and further comprising at least one pair of electrodes in contact with one or more FRMRS such that application of an electrical field across the switches results in release of bound target molecules from the binding sites;

(3) an electronically addressable array of FRMRS as above, the array being positioned on a surface within a device, where the FRMRSs located within an individual position within the array have a given ligand binding specificity and the positions differ from one another in the ligand binding specificities of the molecular recognition and ligand binding sites;

(4) a device for controlled release of selected bound cells, comprising a number of FRMRS as above, where each FRMRS contains a binding site for a target molecule on a cell surface of a selected cell and is connected to a polymeric network, where application of a tensile force onto the polymeric network results in release of the target molecule, releasing the selected bound cell;

(5) a device for cell sorting, where cell sorting is accomplished by selectively and reversibly binding selected target cells, the device comprises a number of FRMRS as above, the FRMRS having a binding site for a target ligand on a surface of a selected target cell, the target cell binds to the ligand binding site of the FRMRS and application of a force to a FRMRS or to a surface of the device, which surface is in contact with a fluid comprising the target cells, results in release of the target cells; and

(6) a device for determining relative binding affinity for ligands and binding partners, comprises a first surface on which is deposited a thin **film** comprising a number of FRMRS as above and a second surface on which is **immobilized** an array of ligands where each FRMRS contains a recognition site and an integrated **donor/acceptor** pair, the surface having the thin **film** is brought into contact with the surface having the array of test molecules resulting in adhesive contact between the surfaces, followed by rapid separation of them, where separation results in a color change of fluorescence emission spectrum of the **donor/acceptor** pair, areas of high affinity binding between a ligand on the array and the binding partner of the FRMRS are identified.

USE - The FRMRS can be used in cell motility assay devices, a molecule-specific sponge capable of binding a particular target molecule, an electronically addressable array, a device for controlled release of selected bound cells, a device for cell sorting, and a device for determining relative binding affinity for ligands and binding partners (all claimed).

ADVANTAGE - None given.

Dwg.0/8

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B04-C01; B04-F01; B04-G01; B11-C07A; B11-C08E; B12-K04; D05-C11; D05-H14; D05-H17; D05-H18

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COUNTRY COUNT: 86
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9965945	A1	19991223	(200011)*	EN	45	C07K014-78
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW						
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW						
AU 9945735	A	20000105	(200024)			C07K014-78
US 2003186323	A1	20031002	(200365)			G01N033-53

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9965945	A1		WO 1999-US13671	19990617
AU 9945735	A		AU 1999-45735	19990617
US 2003186323	A1	Provisional	US 1998-89665P	19980617
		Cont of	US 1999-335118	19990617
			US 2002-229820	20020826

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9945735	A	Based on	WO 9965945

PRIORITY APPLN. INFO: US 1998-89665P 19980617; US 1999-335118 19990617; US 2002-229820 20020826

INT. PATENT CLASSIF.:
MAIN: C07K014-78; G01N033-53
SECONDARY: C12M001-34; G01N033-48; G01N033-50; G01N033-542; G06F019-00

BASIC ABSTRACT:

WO 9965945 A UPAB: 20000301

NOVELTY - A force regulated molecular recognition switch, (FRMRS), is new.

DETAILED DESCRIPTION - The (FRMRS) comprises a polypeptide having, in linear sequence, a first region of alpha -helix or beta -strand or beta -sheet or beta -barrel secondary or tertiary structure, an intervening region without significant secondary or tertiary structure and having a molecular recognition site which acts as a ligand binding site, and a second region of alpha -helix or beta -strand or beta -sheet or beta -barrel secondary or tertiary structure. The first and second regions associate with one another so that the intervening region forms a loop and exposes the ligand binding site at the exterior of the polypeptide and association of the first and second regions is reversible. A force applied at or near at least one terminus of the polypeptide disrupts the association of the first and second alpha -helix or beta -strand or beta -sheet or beta -barrel secondary or tertiary structures, where binding of a ligand to the ligand binding site can occur when they are in association, forming a stable tertiary structure.

INDEPENDENT CLAIMS are also included for the following:

(1) a cell motility assay device comprising at least one FRMRS as above, where the FRMRS comprises at least one integrated energy donor (D)/energy acceptor (A) pair, the FRMRS bound to at least one surface of

PATENT NO	KIND		PATENT NO
AU 2002014939	A	Based on	WO 2002038802
EP 1350852	A1	Based on	WO 2002038802
BR 2001015172	A	Based on	WO 2002038802
JP 2004513375	W	Based on	WO 2002038802
MX 2003004006	A1	Based on	WO 2002038802

PRIORITY APPLN. INFO: CU 2000-247 20001107
INT. PATENT CLASSIF.:
MAIN: C12N001-06; C12Q000-00; C12Q001-68; G01L001-20; G01N027-447
SECONDARY: C02F001-469; C07K001-26; C25B007-00; G01N027-26; G01N033-559

BASIC ABSTRACT:

WO 200238802 A UPAB: 20020717

NOVELTY - Rapid typing of microorganisms (A) by pulsed-field electrophoresis of intact DNA (I) in a minichamber for CHEF (contour-clamped homogeneous electric field) or TAFE (transversal alternating filed electrophoresis), is new.

DETAILED DESCRIPTION - Rapid typing of microorganisms (A) by pulsed-field electrophoresis of intact DNA (I) in a minichamber for CHEF (contour-clamped homogeneous electric field) or TAFE (transversal alternating filed electrophoresis), is new. (I) is prepared from (A) **immobilized** in miniblocks of gel by a non-enzymatic method and separation is performed at values of pulse ramp, electrophoresis duration and temperature calculated to provide the best resolution of (I) from DNA fragments. The **migration** distances of linear (I) in the minigel are analyzed.

An INDEPENDENT CLAIM is also included for a set of reagents for non-enzymatic preparation of samples for the process.

USE - The method is used for typing yeast, bacteria and parasites, e.g. for epidemiological studies, detecting drug resistance, and monitoring vaccination programs.

ADVANTAGE - The process can be completed in 7-13 hours, and sample processing is simple, without use of lytic **enzymes** or proteases. The DNA produced is free from inhibitors of restriction **enzymes**, the homogeneous miniblocks ensure reproducible results, the apparatus requires only a small amount of laboratory space; and electrophoretic patterns can be simulated by computer.

Dwg.0/10

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B04-C02D; B04-E01; B04-E03; B04-F09; B04-F10; B04-L05A; B10-A13C; B10-B01B; B10-B03B; B11-C08D1; B12-K04E; D05-H04; D05-H05; D05-H12A; D05-H13
EPI: S03-E03E

L131 ANSWER 43 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-126542 [11] WPIDS
DOC. NO. NON-CPI: N2000-095369
DOC. NO. CPI: C2000-038535
TITLE: Novel molecular recognition switch used in cell motility assays.
DERWENT CLASS: B04 D16 **S03**
INVENTOR(S): ISRALEWITZ, B; KRAMMER, A; LU, H; SCHULTEN, K; VOGEL, V
PATENT ASSIGNEE(S): (UNII) UNIV ILLINOIS FOUND; (UNIW) UNIV WASHINGTON; (ISRA-I) ISRALEWITZ B; (KRAM-I) KRAMMER A; (LUHH-I) LU H; (SCHU-I) SCHULTEN K; (VOGE-I) VOGEL V

Searched by Barb O'Bryen, STIC 2-2518

DOC. NO. CPI: C2002-121142
TITLE: Rapid typing of microorganisms, useful e.g. for diagnosis, by pulsed field electrophoresis of intact DNA in miniature gel blocks.
DERWENT CLASS: B04 D16 **S03**
INVENTOR(S): ACUNA, M C A; ALONSO, A S; CANOVAS, L L; CLARKE, D H; DIAZ, O A; DONDERIZ, H T C; OROZCO, E O; PEREZ, R G; ROJAS, A M R; ARENCIBIA DIAZ, O; ARIOSA ACUNA, M C; CLARK DONDERIZ, H T; GIGATO PEREZ, R; HIGGISON CLARKE, D; LOPEZ CANOVAS, L; OROZCO OROZCO, E; RIVERON ROJAS, A M; SANCHEZ ALONSO, A; LOPEZ-CANOVAS, L
PATENT ASSIGNEE(S): (NAIN-N) CENT NACIONAL INVESTIGACIONES CIENTIFICA; (DIAZ-I) ARENCIBIA DIAZ O; (ACUN-I) ARIOSA ACUNA M C; (DOND-I) CLARK DONDERIZ H T; (PERE-I) GIGATO PEREZ R; (CLAR-I) HIGGISON CLARKE D; (LOPE-I) LOPEZ-CANOVAS L; (OROZ-I) OROZCO OROZCO E; (ROJA-I) RIVERON ROJAS A M; (ALON-I) SANCHEZ ALONSO A
COUNTRY COUNT: 98

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002038802	A1	20020516	(200245)*	ES	67	C12Q001-68
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW						
AU 2002014939	A	20020521	(200260)			C12Q001-68
EP 1350852	A1	20031008	(200370)	EN		C12Q001-68
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR						
BR 2001015172	A	20040217	(200414)			C12Q001-68
ZA 2003003472	A	20040128	(200420)		68	C12Q000-00
US 2004050700	A1	20040318	(200421)			G01L001-20
JP 2004513375	W	20040430	(200430)		105	G01N027-447
CN 1479790	A	20040303	(200436)			C12Q001-68
MX 2003004006	A1	20040401	(200478)			C12N001-06

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002038802	A1	WO 2001-CU8	20011102
AU 2002014939	A	AU 2002-14939	20011102
EP 1350852	A1	EP 2001-983428	20011102
		WO 2001-CU8	20011102
BR 2001015172	A	BR 2001-15172	20011102
		WO 2001-CU8	20011102
ZA 2003003472	A	ZA 2003-3472	20030506
US 2004050700	A1	WO 2001-CU8	20011102
		US 2003-415950	20031020
JP 2004513375	W	WO 2001-CU8	20011102
		JP 2002-542115	20011102
CN 1479790	A	CN 2001-820303	20011102
MX 2003004006	A1	WO 2001-CU8	20011102
		MX 2003-4006	20030506

FILING DETAILS:

Searched by Barb O'Bryen, STIC 2-2518

AU 2002243587 A1 Based on WO 2002057295

PRIORITY APPLN. INFO: US 2002-47759 20020115; US
2001-261215P 20010116; US
2001-287754P 20010501; US
2002-135386 20020501

INT. PATENT CLASSIF.:
MAIN: C07K001-00; G01N027-26; G01N027-447
SECONDARY: G01N027-447

BASIC ABSTRACT:

WO 200257295 A UPAB: 20040429

NOVELTY - A microfluidic apparatus (I) comprising a housing with a cover where the first end of the fluidic channel(s) is disposed and outlet reservoir(s) where first end of outlet electrode(s) and second end of fluidic channel are disposed and a high-voltage power supply attached to a second end of outlet electrode, is new.

DETAILED DESCRIPTION - A microfluidic apparatus consists of housing (8), cover (3), fluidic channel(s) (1), outlet reservoir(s) (9), outlet electrode(s) (4) and high-voltage power supply (10). The housing is used to contain **protein**-containing gel (5) and electrolyte solution (6). The fluidic channels comprise electrolyte solution. The first end of each fluidic channel is disposed through the cover and secured in position gel interface. The first end of each outlet electrode and the second end of each fluidic channel are disposed in the outlet reservoirs. The high-voltage power supply is attached to a second end of each outlet electrode for applying an electric field across the length of the fluidic channels.

An INDEPENDENT CLAIM is also included for transferring **proteins** from a gel by contacting the first end of fluidic channels to locations in the gel that contains **proteins**, disposing the second end of fluidic channels in outlet reservoirs, applying high electric field along the length of the channels to extract **proteins**, concentrating the **proteins** near the first end of the channels by electrophoretic stacking, and transferring the **proteins** from the first end toward the second end of fluidic channels.

USE - (I) is useful for performing gel **protein** extraction.

ADVANTAGE - (I) performs rapid and efficient extraction of **protein** analytes directly from 2D gels.

DESCRIPTION OF DRAWING(S) - The figure shows the gel **protein** extraction apparatus.

Fluidic channel 1
Cover 3
Outlet electrode 4
Protein-containing gel 5
Electrolyte solution 6
Ground electrode 7
Housing 8
Outlet reservoir 9
High-voltage power supply 10

Dwg.1/4

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A12-L04; B04-C01; B04-L05C; B04-N04; B11-C07B3; B11-C08; B11-C08A; B11-C08F; B11-C08G; B12-K04E; D05-H09

L131 ANSWER 42 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-426958 [45] WPIDS
DOC. NO. NON-CPI: N2002-335731

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and also in human hypertensive disorders and their consequences, vascular lesions and hyperplasias (claimed).
Dwg.0/1

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A12-L04; A12-L04A; B04-B04L; B04-E05; B11-C08D2; B11-C08D3; B11-C08E; B11-C08E3; B11-C08E5; B12-K04F; B14-F01; B14-F02; B14-L06; D05-A02; D05-H09; D05-H12A; D05-H12D1; D05-H13; D05-H18B; J04-B01C; K08-X
EPI: S03-E09C5; S03-E09C7B; S03-E14H9; T01-J05C; T01-J08A

L131 ANSWER 41 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-636523 [68] WPIDS
DOC. NO. CPI: C2004-013558
TITLE: Microfluidic apparatus for extracting gel **protein** has housing, cover, fluidic channel, outlet reservoir, outlet electrode and high-voltage power supply.
DERWENT CLASS: A89 B04 D16
INVENTOR(S): DEVOE, D; LEE, C; LEE, C S
PATENT ASSIGNEE(S): (CALI-N) CALIBRANT BIOSYSTEMS INC; (DEVO-I) DEVOE D; (LEEC-I) LEE C; (LEEC-I) LEE C S
COUNTRY COUNT: 99
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002057295	A2	20020725	(200268)*	EN	53	C07K001-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW						
US 2002121444	A1	20020905	(200268)			G01N027-26
US 2002170825	A1	20021121	(200279)			G01N027-26
EP 1356270	A2	20031029	(200379)	EN		G01N027-447
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR						
AU 2002243587	A1	20020730	(200427)			C07K001-00

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2002057295	A2		WO 2002-US1400	20020116
US 2002121444	A1	Provisional	US 2001-261215P	20010116
		Provisional	US 2001-287754P	20010501
			US 2002-47759	20020115
US 2002170825	A1	Provisional	US 2001-287754P	20010501
			US 2002-135386	20020501
EP 1356270	A2		EP 2002-709082	20020116
			WO 2002-US1400	20020116
AU 2002243587	A1		AU 2002-243587	20020116

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1356270	A2	Based on	WO 2002057295

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(b) adding the sample to the top of the column and eluting the components at a flow rate of 1.0-2.0 mL/min;

(c) obtaining the absorbancy profile for each aliquot at 214 nm in order to define the constitution of the pools;

(d) partially purifying the components of the pools showing potentiating activity by high performance liquid chromatography, for which 0.1-1.0% trifluoro acid (TFA) H2O and acetonitrile/H2O (9:1) are used as solvents, and a gradient of 5-60% of solvent B, with a flow rate of 0.2-0.5 mL/min; and

(e) determining the molecular mass and the primary structure of the bradykinin potentiating peptides by **mass spectrometry** (ESMS-MS).

INDEPENDENT CLAIMS are also included for:

(1) procedure (II) for the amino acid sequence determination of the BPPs;

(2) determining (III) the amino acid sequence of the EVASINS by deduction using the cDNA of the precursors of these molecules expressed in serpent tissues, specifically of B. jararaca;

(3) determining (IV) amino acid sequence of EVASINS by deduction, using the cDNA of the precursors of these molecules expressed in serpent brain tissues, specifically of B. jararaca;

(4) determining (V) the amino acid sequence of the BPPs by deduction of the cDNA of the precursors of these molecules expressed in serpent brain tissues;

(5) amplifying the cDNA from serpent brain cDNA libraries, specifically B. jararaca;

(6) **solid-phase** synthesis procedure of vasopeptidase peptide inhibitors exhibiting vasodilating and anti-hypertensive action (procedure fully explained in the specification); and

(7) vasopeptidase peptide inhibitors (VI) with anti-hypertensive and vasodilating action, characterized by the formula group:

(a) showing no specificity for the C-site of ACE: EKWAP, group;

(b) showing specificity for the C-site of ACE.

(I) pp1a1-a3Paa5a6aP7P8;

(II) pp1a1-a4P5a6aa7p8p9;

(III) pp1a1-a5P6a7aa8P9P10;

(IV) pp1a1-a6P7a8aa9P10P11;

(V) pp1a1-a7P8a9aa10P11P12; and

(VI) pp1a1-a8p9a10a11P12P13.

P = Pro;

pp1 = the N-terminus, and may be pyroglutamyl or a simple amino acid;

a1 = Trp, Ser, Gly or Asn;

a2 = Pro, Gly or Trp;

a3 = Pro, Ala, Arg or Trp;

a4 = Thr, Pro, Gly, His, Arg, Trp or Glu;

a 4a = Pro;

a5 = Gln, Asn, Pro, or Gly;

a6a , a7a, a8a and a9a = Gln, Asn, Pro, or Gly;

a6, - a10 = Ile or Ala or Thr.

ACTIVITY - Hypotensive; Cardiant.

No supporting data is given.

MECHANISM OF ACTION - Vasopeptidase peptide inhibitor.

USE - (I) Is useful for the isolation and purification of vasopeptidase peptide inhibitors showing specificity for C-site of ACE, secreted by serpent venom glands.

(II) Is useful for the amino acid sequence determination of the BPPs. The vasopeptidase peptide inhibitors with vasodilation and anti-hypertensive action, are useful in systemic cardiovascular disorders, in general or localized, where microcirculation is the affected target,

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002074782	A2	20020926	(200306)*	EN	56	C07K000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW						
BR 2001001088	A	20030318	(200325)			C07K001-16
AU 2002238310	A1	20021003	(200432)			C07K000-00
US 2005031604	A1	20050210	(200512)			A61K038-43
JP 2005505245	W	20050224	(200516)		88	C12N015-09

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002074782	A2	WO 2002-BR41	20020318
BR 2001001088	A	BR 2001-1088	20010319
AU 2002238310	A1	AU 2002-238310	20020318
US 2005031604	A1	WO 2002-BR41	20020318
		US 2004-471931	20040305
JP 2005505245	W	JP 2002-573791	20020318
		WO 2002-BR41	20020318

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002238310	A1 Based on	WO 2002074782
JP 2005505245	W Based on	WO 2002074782

PRIORITY APPLN. INFO: BR 2001-1088 20010319
INT. PATENT CLASSIF.:
MAIN: A61K038-43; C07K000-00; C07K001-16; C12N015-09
SECONDARY: A61K038-00; A61K038-17; A61P009-08; A61P009-12; A61P043-00; C07K014-46; C12N009-99; C12P021-06; C12Q001-68; G01N027-447; G01N027-62; G01N030-34; G01N030-46; G01N030-48; G01N030-72; G01N030-88; G01N033-53; G01N033-566; G01N033-60

BASIC ABSTRACT:

WO 200274782 A UPAB: 20030124

NOVELTY - Isolation and purification (I) of vasopeptidase peptide inhibitors, secreted by serpent venom glands (BPPs), particularly Bothrops jararaca or produced endogenously (EVASINS), comprises obtaining total venom from a pool of B. jararaca venom, centrifuging and passing the supernatant through a gel-filtration column, and purifying components of the eluted pools by high performance liquid chromatography, is new.

DETAILED DESCRIPTION - Isolation and purification of vasopeptidase peptide inhibitors, showing specificity for the carboxyl site of the angiotensin-converting **enzyme**, secreted by serpent venom glands (BPPs), particularly B. jararaca or produced endogenously (EVASINS), having vasodilating and anti-hypertensive action, comprises:

(a) obtaining 800-1500 mg of total venom, from a pool of B. jararaca venom, dissolved in 7-15 ml deionized water followed by centrifugation at 1500-2000 rpm for 15-20 minutes, passing the supernatant through a gel-filtration column, Sephadex G-25 (25-80 micron), 1.2 multiply 101 cm, equilibrating the column with 30-50 mM ammonium-acetate buffer, pH 5.0-6.0, at room temperature;

Searched by Barb O'Bryen, STIC 2-2518

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2005147845	A	JP 2003-385628	20031114

PRIORITY APPLN. INFO: JP 2003-385628 20031114
INT. PATENT CLASSIF.:
MAIN: G01N027-447
SECONDARY: G01N021-27
BASIC ABSTRACT:
JP2005147845 A UPAB: 20050704
NOVELTY - Three-dimensional electrophoretic analysis (M1) involves performing first and second dimensional **migration** separation, and third **migration** separation.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) a three-dimensional analyzer for carrying out (M1); and
(2) a transparent base material for surface plasmon resonance sensor utilized in (M1).
USE - (M1) useful for performing three-dimensional electrophoretic analysis (claimed) utilized for screening disease related **proteins** .
ADVANTAGE - (M1) exhibits high resolvability and comprehensibility.
DESCRIPTION OF DRAWING(S) - The figure shows a medium for performing three-dimension electrophoresis.
Dwg.1/25
FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: A12-E09; A12-L04; B04-C02D; B04-C03B; B04-N04; B11-C07B2; B11-C07B6; B11-C08B; B11-C08D1; B11-C08D3; B12-K04A; D05-H09
EPI: S03-E03E; S03-E04B5A; S03-E09C7A; S03-E14H5

L131 ANSWER 40 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-067368 [06] WPIDS
DOC. NO. NON-CPI: N2003-052317
DOC. NO. CPI: C2003-017510
TITLE: Isolation and purification of vasopeptidase peptide inhibitors, secreted by serpent venom glands, by centrifuging and subjecting total venom from a pool of Bothrops jararaca venom to gel-filtration column and purifying.
DERWENT CLASS: A89 B04 D16 J04 K08 **S03** T01
INVENTOR(S): ALVES IANZER, D; CALHETA VIEIRA PORTARO, F; FERRAGINI MURBACK, A; MARTINS DE CAMARGO, A C; PALMA, M S; POLISELLI FARSKY, S H; ALVES LANZER, D; FERRAGINI MURBACH, A; HAYASHI, M A F; VIEIRA PORTARO, F C; DE CAMARGO, A C M; FARSKY, S H P; FURUIE, M A; IANZER, D A; MURBACH, A F; PORTARO, F C V
PATENT ASSIGNEE(S): (BIOL-N) BIOLAB SANUS FARM LTDA; (AMPA-N) FUNDACAO AMPARO A PESQUISA DO ESTADO; (DCAM-I) DE CAMARGO A C M; (FARS-I) FARSKY S H P; (FURU-I) FURUIE M A; (IANZ-I) IANZER D A; (MURB-I) MURBACH A F; (PALM-I) PALMA M S; (PORT-I) PORTARO F C V
COUNTRY COUNT: 95
PATENT INFORMATION:

Searched by Barb O'Bryen, STIC 2-2518

INT. PATENT CLASSIF.:
MAIN: C12Q001-68; G01N033-53
SECONDARY: C12M001-00; C12M001-36; G01N033-537; G01N033-542; G01N033-543; G01N033-567

BASIC ABSTRACT:

US2005048493 A UPAB: 20050406

NOVELTY - Presence of **immobilized** molecular analyte is detected by contacting molecular analyte **immobilized** on molecular analyte **solid support** with **film** layer having molecular ligand zone, where ligand zone has molecular ligand; **wetting** ligand and allowing ligand to diffusibly **migrate** to molecular ligand binding site of molecular analyte to produce detectable product; and detecting detectable product.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an apparatus, comprising a molecular analyte layer and a **film** layer (1). The molecular analyte layer comprises a molecular analyte (6) **immobilized** on a molecular analyte **solid support** (7). The molecular analyte comprises a molecular ligand-binding site. The **film** layer comprises a molecular ligand zone (2) having a molecular ligand, where, upon **wetting** of the molecular ligand zone, the molecular ligand can diffusibly **migrate** to the molecular ligand-binding site of the molecular analyte to produce a detectable product.

USE - For detecting the presence of an **immobilized** molecular analyte.

ADVANTAGE - The invention is efficient and cost effective for high throughput screening of potential drug compounds.

DESCRIPTION OF DRAWING(S) - The figure is an illustration of a **film** layer and a molecular analyte **immobilized** on a molecular analyte **solid support.**

Film layer 1
Molecular ligand zone 2
Molecular ligands 3
Additional zone 4
Molecular analyte 6
Molecular analyte **solid support** 7

Dwg.1A/3

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: A12-L04B; B04-C03B; B04-E01; B04-L01; B04-N04; B11-C08A; B11-C10A; B12-K04E; B12-K04E1; D05-A02; D05-H09; D05-H10
EPI: S03-E09F

L131 ANSWER 39 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-410810 [42] WPIDS
DOC. NO. NON-CPI: N2005-333539
DOC. NO. CPI: C2005-126680
TITLE: Three-dimensional electrophoretic analysis involves performing first and second dimensional **migration** separation, and third **migration** separation.
DERWENT CLASS: A89 B04 D16 **S03**
INVENTOR(S): HIDE, M; NAKASO, N; SUZUKI, H
PATENT ASSIGNEE(S): (HIDE-I) HIDE M; (TOPP) TOPPAN PRINTING CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 2005147845	A	20050609	(200542)*		35	G01N027-447

Searched by Barb O'Bryen, STIC 2-2518

cation exchange chromatography: column chromatography, purification method; immunoaffinity chromatography: Recombinant **Protein** Protocols, characterization method, affinity chromatography; immunoblotting: detection method, detection/labeling techniques; lipase activity assay: activity assays, characterization method; SDS-PAGE [SDS-**polyacrylamide** gel electrophoresis]: gel electrophoresis, separation method; Ultralink **immobilized** hydrazide kit: Pierce, equipment; Wilhelmy plate method: Analysis/Characterization Techniques: CB, characterization method

ORGANISM: Classifier
Lepidoptera 75330
Super Taxa
Insecta; Arthropoda; Invertebrata; Animalia
Organism Name
BTI-TN-5B 1-4 [High Five]: Invitrogen
Taxa Notes
Animals, Arthropods, Insects, Invertebrates

REGISTRY NUMBER: 9001-62-1 (LIPASE)
9001-62-1 (EC 3.1.1.3)
25415-88-7 (HYDRAZIDE)

L131 ANSWER 38 OF 44 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-212261 [22] WPIDS
DOC. NO. NON-CPI: N2005-175518
DOC. NO. CPI: C2005-068003
TITLE: Detection of **immobilized** molecular analyte comprises contacting molecular analyte with **film** layer, diffusibly **migrating wetted** molecular ligand to molecular ligand binding site of molecular analyte, and detecting detectable product.
DERWENT CLASS: A89 B04 D16 **S03**
INVENTOR(S): KIM, R
PATENT ASSIGNEE(S): (ZYOM-N) ZYOMYX INC
COUNTRY COUNT: 108
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 2005048493	A1	20050303	(200522)*		18	C12Q001-68
WO 2005022151	A1	20050310	(200522)	EN		G01N033-53

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005048493	A1	US 2003-650261	20030827
WO 2005022151	A1	WO 2004-US28007	20040827

PRIORITY APPLN. INFO: US 2003-650261 20030827

Searched by Barb O'Bryen, STIC 2-2518

laboratory equipment; Sepharose CL-4B column: laboratory equipment; Sepharose G-25 column: laboratory equipment

INDEX TERMS: Miscellaneous Descriptors
signal amplification

REGISTRY NUMBER: 58-55-9 (theophylline)
9012-36-6 (SEPHAROSE)
61970-08-9 (SEPHAROSE CL-4B)

L131 ANSWER 37 OF 44 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 1998:472831 BIOSIS
DOCUMENT NUMBER: PREV199800472831
TITLE: Purification and interfacial behavior of recombinant human gastric lipase produced from insect cells in a bioreactor.
AUTHOR(S): Canaan, Stephane [Reprint author]; Dupuis, Liliane [Reprint author]; Riviere, Mireille [Reprint author]; Faessel, Karine [Reprint author]; Romette, Jean-Louis; Verger, Robert [Reprint author]; Wicker-Planquart, Catherine [Reprint author]
CORPORATE SOURCE: Lab. Lipolyse Enzymatique, UPR 9025, IFR-1 CNRS, 31 Chemin Joseph-Aiguier, 13402 Marseille Cedex 20, France
SOURCE: Protein Expression and Purification, (Oct., 1998) Vol. 14, No. 1, pp. 23-30. print.
CODEN: PEXPEJ. ISSN: 1046-5928.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Nov 1998
Last Updated on STN: 5 Nov 1998

ABSTRACT:Recombinant human gastric lipase (rHGL) (EC 3.1-1.3) was producedon a large scale (5-13 mg/liter) from recombinant baculovirus-infected insect cells using a bioreactor **apparatus.** Here an improved procedure is described for purifying rHGL involving the use of cation exchange chromatography followed by immunoaffinity column methods, which gives a total yield of 62% and a purification factor of 464, using 10% isopropanol in all the purification buffers. The presence of isopropanol was necessary to preserve the stability of the **enzyme** during the chromatographic separation steps. The specific activity of rHGL on tributyroylglycerol (700 U/mg) was lower than that of native HGL (nHGL) (1080 U/mg). The rHGL interfacial adsorption kinetics were studied by recording the changes in the surface pressure with time in the presence or absence of an egg phosphatidycholine monomolecular **film** spread at the air/water interface at various initial surface pressures. The surface behavior of rHGL was similar to that of nHGL. It can be concluded that the lipid binding affinity of rHGL is identical to that of the native lipase and, consequently, that the presence of detergents and lipids in the insect cell culture media did not affect the interfacial behavior of the purified rHGL. It will be therefore possible to specifically study the binding step of HGL mutants to a lipid monolayer.

CONCEPT CODE: Biochemistry methods - General 10050
Biochemistry studies - General 10060
Enzymes - General and comparative studies: coenzymes 10802
Digestive system - General and methods 14001

INDEX TERMS: Major Concepts
Enzymology (Biochemistry and Molecular Biophysics); Methods and Techniques

INDEX TERMS: Chemicals & Biochemicals
human gastric lipase [EC 3.1.1.3]: interfacial behavior, recombinant, purification

INDEX TERMS: Methods & Equipment
bioreactor **apparatus**: Cytoflow SGI, equipment;

Searched by Barb O'Bryen, STIC 2-2518

DOCUMENT NUMBER: PREV199900079068
TITLE: Disposable liposome immunosensor for theophylline combining an immunochromatographic membrane and a thick-**film** electrode.
AUTHOR(S): Lee, Kang Shin; Kim, Tae-Han; Shin, Min-Chol; Lee, Won-Yong [Reprint author]; Park, Je-Kyun
CORPORATE SOURCE: LG Corp. Inst. Technol., Devices and Materials Lab., 16 Woomyeon-dong, Seocho-gu, Seoul 137-724, South Korea
SOURCE: Analytica Chimica Acta, (Jan. 25, 1999) Vol. 380, No. 1, pp. 17-26. print.
CODEN: ACACAM. ISSN: 0003-2670.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 1 Mar 1999
Last Updated on STN: 1 Mar 1999

ABSTRACT:A novel electrochemical immunosensor based on the principles of liposomes signal amplification and immunochromatography has been developed for the determination of theophylline. The immunosensor is composed of two major parts including a screen-printed electrode and an immunochromatographic nitrocellulose membrane strep. On the membrane, anti-theophylline antibody is ***immobilized*** in an antibody competition zone and hexacyanoferrate(II)-loaded liposomes are **immobilized** in a signal generation zone. When a theophylline sample solution is applied to the immunosensor pre-loaded with theophylline-melittin conjugate in sample loading zone, the theophylline and theophylline-melittin conjugate **migrate** thought the anti-theophylline antibody zone, where competitive binding occurs. Unbound theophylline-melittin conjugate further **migrates** into the signal generation zone, where it disrupts the liposomes to release the electroactive hexacyanoferrate(II) which is then detected amperometrically. The current produced is directly proportional to the concentration of hexacyanoferrate(II) which, in turn, can be related to the concentration of free analyte in the sample. The detection limit of 5 mug ml-1 enables the present immunosensor to be used to monitor theophylline over the clinically relevant ranges (10-20 mug ml-1) with a one-step assay within 20 min.

CONCEPT CODE: Biochemistry studies - General 10060
Biochemistry methods - General 10050
INDEX TERMS: Major Concepts
Biochemistry and Molecular Biophysics; Equipment, **Apparatus**, Devices and Instrumentation; Methods and Techniques
INDEX TERMS: Chemicals & Biochemicals
theophylline-melittin conjugate: Sigma; theophylline: Sigma
INDEX TERMS: Methods & Equipment
centrifugation: centrifugation techniques: CB, separation method; disposable liposome immunosensor: laboratory equipment; immunochromatographic nitrocellulose membrane: laboratory equipment; immunochromatography: analytical method, chromatographic techniques; **protein**-G affinity chromatography: liquid chromatography, purification method; size exclusion chromatography: liquid chromatography, separation method; spectramax microplate spectrophotometer: Molecular Devices, laboratory equipment; thick-**film** electrode: laboratory equipment; ultrafiltration: filtration techniques, separation method; Brookhaven Instrument B1-2030AT laser light scattering photometer: Brookhaven Instrument, laboratory equipment; EG&G Princeton Applied Research 273 potentiostat: EG&G Princeton Applied Research,

Searched by Barb O'Bryen, STIC 2-2518

equipment; thick **film** electrode: laboratory equipment
REGISTRY NUMBER: 57-88-5 (cholesterol)
37292-81-2 (cytochrome P450scc)

L131 ANSWER 35 OF 44 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 2003:414065 BIOSIS
DOCUMENT NUMBER: PREV200300414065
TITLE: Fluorometric sensors based on chemically modified **enzymes** glucose determination in drinks.
AUTHOR(S): Sanz, Vanesa; Galban, Javier [Reprint Author]; de Marcos, Susana; Castillo, Juan R.
CORPORATE SOURCE: Analytical Spectroscopy and Sensors Group (GEAS), Analytical Chemistry Department, Science Faculty, University of Zaragoza, 50009, Zaragoza, Spain
jgalban@posta.unizar.es
SOURCE: Talanta, (13 June 2003) Vol. 60, No. 2-3, pp. 415-423. print.
ISSN: 0039-9140 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 10 Sep 2003
Last Updated on STN: 10 Sep 2003
ABSTRACT:In this paper an enzymatic fluorometric sensor for glucose determination in drinks is presented. The sensor **film** was obtained by **immobilisation** of glucose oxidase chemically modified with a fluorescein derivative (GOx-FS) in a **polyacrylamide** polymer. During the enzymatic reaction the changes in the fluorescence intensity of the GOx-FS are related to the glucose concentration. Working in FIA mode, the optimum conditions found were: 0.7 ml min-1 flow rate, 300 mul sample injection and pH 6.5. The sensor responds to glucose concentrations ranging from 400 to 2000 mg l-1, the reproducibility is around 3% and the life-time is at least 3 months (more than 350 measurements). The sensor was applied to direct glucose determination in drinks with good accuracy; interference caused by the filter effect was avoided by the kinetics of the reaction.
CONCEPT CODE: Biochemistry studies - Carbohydrates 10068
Enzymes - General and comparative studies: coenzymes 10802
Food technology - General and methods 13502
INDEX TERMS: Major Concepts
Equipment **Apparatus** Devices and Instrumentation; Foods; Methods and Techniques
INDEX TERMS: Chemicals & Biochemicals
glucose: determination; glucose oxidase [EC 1.1.3.4]
INDEX TERMS: Methods & Equipment
chemical modification: laboratory techniques; flow injection analysis: laboratory techniques; fluorometric sensor: laboratory equipment; fluorometry: laboratory techniques, spectrum analysis techniques
INDEX TERMS: Miscellaneous Descriptors
drink analysis
REGISTRY NUMBER: 50-99-7Q (glucose)
58367-01-4Q (glucose)
9001-37-0 (glucose oxidase)
9001-37-0 (EC 1.1.3.4)

L131 ANSWER 36 OF 44 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1999:79068 BIOSIS

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affinity electrophoresis. Binding constants to dextran range from 1.52 x 10('5) to 4.43 x 10('5) ml/g for the five IgA monomers, and from 1.70x10('3) to 6.10x10('4) ml/g for the seven IgM monomers. Antibody monomers containing both specific and nonspecific (myeloma cell derived) light chains are shown to have association constants with dextran six to 30 fold lower than monomers containing only specific light chain, suggesting that the association of specific heavy chain with nonspecific light chain does not result in an anti-dextran combining site. Binding constants with isomaltoheptaose range from 1.45 x 10('4) to 7.01 x 10('4) M('-1) for the IgA **proteins** and from 6.46 x 10('3) to 7.70 x 10('4) M('-1) for the IgM **proteins** . The binding constants with dextran and with isomaltoheptaose, and the electrophoretic, immunochemical, and idiotypic characteristics of the hybridoma **proteins** are discussed.

CLASSIFICATION: 0410 BIOLOGY, MICROBIOLOGY

L131 ANSWER 34 OF 44 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2004:224934 BIOSIS
DOCUMENT NUMBER: PREV200400226298
TITLE: Cholesterol amperometric biosensor based on cytochrome P450scc.
AUTHOR(S): Shumyantseva, Victoria [Reprint Author]; Deluca, Gilda; Bulko, Tatiana; Carrara, Sandro; Nicolini, Claudio; Usanov, Sergei A.; Archakov, Alexander
CORPORATE SOURCE: Institute of Biomedical Chemistry, Pogodinskaya St., 10, Moscow, 119121, Russia
victoria@ibmh.msk.su
SOURCE: Biosensors & Bioelectronics, (15 April 2004) Vol. 19, No. 9, pp. 971-976. print.
CODEN: BBIOE4. ISSN: 0956-5663.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Apr 2004
Last Updated on STN: 21 Apr 2004

ABSTRACT:A screen-printed **enzyme** electrode based on flavocytochrome P450scc (RfP450scc) for amperometric determination of cholesterol has been developed. A one-step method for RfP450scc **immobilization** in the presence of glutaraldehyde or by entrapment of **enzyme** within a hydrogel of **agarose** is discussed. The sensitivity of the biosensor based on **immobilization** procedures of flavocytochrome P450scc by glutaric aldehyde is 13.8 nA muM-1 and the detection limit is 300 muM with a coefficient of linearity 0.98 for cholesterol in the presence of sodium cholate as detergent. The detection limits and the sensitivity of the **agarose** -based electrode are 155 muM and 6.9 nA muM-1 with a linearity coefficient of 0.99. For both types of electrodes, the amperometric response to cholesterol in the presence of detergent was rather quick (1.5-2 min).

CONCEPT CODE: Biochemistry studies - General 10060
Biochemistry studies - Sterols and steroids 10067

INDEX TERMS: Major Concepts
Biochemistry and Molecular Biophysics; Equipment **Apparatus** Devices and Instrumentation

INDEX TERMS: Chemicals & Biochemicals
cholesterol; cytochrome P450scc

INDEX TERMS: Methods & Equipment
cholesterol amperometric biosensor: laboratory equipment; **enzyme** electrode: laboratory

Searched by Barb O'Bryen, STIC 2-2518

DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 19921118
Last Updated on STN: 19921118

ABSTRACT: Part I. (A) A sensitive and rapid method for the detection of monoclonal antibodies secreted by hybridomas **immobilized** in soft **agarose** is described. Nitrocellulose filters coated with antigen are placed on the **agarose** over the hybridoma clones. After incubation to allow immunoadsorption of any secreted antibodies specific for the filter-bound antigen, the filter is removed and overlaid with a suspension of antigen-coupled erythrocytes that react with the adsorbed antibodies; after unbound erythrocytes are allowed to fall off the filter, red spots delineate the sites at which antibody-forming clones are present in the **agarose** . Alternatively, the filter may be treated with radiolabeled antigen followed by autoradiography. (B) Optimal conditions for the formation of hybridoma clones in soft **agarose** are described. The hybridization frequency is shown to be highly dependent on the pH of the polyethylene glycol (PEG) solution used for fusion and on the cloning medium. Maximal numbers of clones are obtained when the PEG solution used for fusion is at pH 8.0-8.2.

Part II. Twelve mouse hybridomas secreting antibodies to dextran B512, identified by replica immunoadsorption screening of 100,000 **immobilized** hybridoma clones, were obtained. Among 11 hybridomas of BALB/c origin seven produce IgM and four produce IgA. One hybridoma of C57BL/6 origin synthesized IgA. A (kappa) light chain is synthesized by each of the 12 hybridomas in addition to the nonspecific (kappa) light chain of the parent myeloma. The heavy chain is shown to associate preferentially with the specific (spleen cell derived) light chain. All hybridoma antibodies were purified from ascites by precipitation with dextran B512, followed by subsequent digestion of the dextran with dextranase. Although all the specific light chains **migrate** identically in SDS gels, slight variations in **migration** are noticed among the heavy chains. Furthermore, differences in **migration** among the IgA monomers and among the IgA polymers are seen on nondenaturing **polyacrylamide** gels. Densitometer scans of such gels show that more than 50 percent of the IgA hybridoma antibodies are in polymeric form.

Part III. The combining sites of the hybridoma antibodies specific for (alpha)(1(--->)6) linked dextran were probed by precipitin and precipitin inhibition assays. The 12 antibodies are able to bind to linear determinants in the interior of the dextran molecule; some have sites complementary to six (alpha)(1(--->)6) linked glucose residues and others have sites complementary to seven (alpha)(1(--->)6) linked glucose residues. From the analysis of the precipitins and precipitin inhibitions, it is concluded that no two hybridoma **proteins** have identical **binding sites.**

Part IV. Binding constants of monomers of the anti-(alpha)(1(--->)6) dextran hybridoma antibodies with dextran B512 and with isomaltoheptaose were determined by

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and DMAEMA-MMA were chosen as potential coating materials for **agarose**, calcium alginate or potassium carrageenan gel beads. Polymer solid surface tensions ranged from 58 to 72 mJ.m$\sp{-2}$, while gel solid surface tensions were all close to 70 mJ.m$\sp{-2}$.

The effect of solid and liquid surface tensions on the force required to fracture an **agarose**-polymer was qualitatively similar to the thermodynamic work of adhesion; hence, only van der Waals' forces were responsible for the adhesion of **agarose** to polymer **films.** The thermodynamic work of adhesion was able to predict adhesion between calcium alginate or carrageenan gels and polymer **films** only in high ionic strength solutions; hence the adhesion of these polyanionic gels to polymer **films** was a result of van der Waals' and other adhesion forces not accounted for by the thermodynamic work of adhesion (e.g. electrostatic adhesion components).

The thermodynamic work of adhesion also successfully described the effect of changing liquid and solid surface tensions on the number of live fibroblasts adherent to smooth polymer **films.** Hence, fibroblast adhesion to polymer **films** may be described only in terms of van der Waals' adhesion forces. The solid surface tension of the live normal human fibroblast cell surface was estimated to be 69 mJ.m$\sp{-2}$.

All gels were similar in their ability to support mammalian cell growth. Normal human fibroblasts **immobilized** in gel beads were viable, but did not reproduce. Anchorage independent tissue cells such as Chinese Hamster Ovary (CHO) cells remained viable and grew to form colonies in gel suspension.

Teflon cage implants containing polymer **films** were used to monitor the activities of intracellular **enzymes** during the healing-in of an implanted material. These results suggest that the in vivo tissue compatibility of implanted neutral polyacrylate copolymers was similar to the compatibility of control materials.

CLASSIFICATION: 0541 ENGINEERING, BIOMEDICAL

L131 ANSWER 33 OF 44 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 81:28971 DISSABS Order Number: AAR8125389

TITLE: MOUSE HYBRIDOMA ANTIBODIES TO ALPHA(1--->6) LINKED DEXTRAN. I. A. DETECTION OF SPECIFIC HYBRIDOMA CLONES BY REPLICA IMMUNOADSORPTION OF THEIR SECRETED ANTIBODIES. I. B. FORMATION OF HYBRIDOMA CLONES IN SOFT **AGAROSE**: EFFECT OF PH AND OF MEDIUM. II. FORMATION AND CHARACTERIZATION OF MOUSE HYBRIDOMAS SECRETING IMMUNOGLOBULIN-M OR IMMUNOGLOBULIN-A ANTIBODIES TO ALPHA(1--->6) LINKED DEXTRAN. III. IMMUNOCHEMICAL CHARACTERIZATION OF **BINDING SITES** OF HYBRIDOMA ANTIBODIES SPECIFIC FOR ALPHA(1--->6) LINKED DEXTRAN. IV. ASSOCIATION CONSTANTS OF HYBRIDOMA ANTIBODIES SPECIFIC FOR ALPHA(1--->6) LINKED DEXTRAN DETERMINED BY AFFINITY ELECTROPHORESIS

AUTHOR: SHARON, JACQUELINE [PH.D.]

CORPORATE SOURCE: COLUMBIA UNIVERSITY (0054)

SOURCE: Dissertation Abstracts International, (1981) Vol. 42, No. 6B, p. 2236. Order No.: AAR8125389. 179 pages.

Searched by Barb O'Bryen, STIC 2-2518

dopaminergic receptors, SRBS was solubilized and pharmacologically characterized from crude rat liver homogenates in CHAPS according to the protocol of Arnold (1989). Adsorption of SRBS to OB101 **immobilized** on **agarose** was found to be time-dependent. The biospecificity of this interaction was confirmed through the use of a "control" **agarose-immobilized** ligand which was pharmacologically inactive on the SRBS. Specific elution of adsorbed SRBS from the washed gel onto WGA-**agarose** eluted with N-acetyl-d-glucosamine yielded a 28 kDa **protein** on SDS-PAGE. N-terminal blockage of this **protein** prevented the acquisition of a partial amino acid sequence.

Large scale purification of SRBS was attempted with the following goals: (1) to improve yields of SRBS prior to affinity chromatography, (2) to decrease the amount of time required for SRBS purification, (3) to purify SRBS in a pharmacologically active state and (4) to purify sequencable amounts of SRBS. These goals were achieved in part through the use of OB101 **immobilized** on an amino-derivatized silica based matrix. Single-pass affinity chromatography with high flow rates has allowed for rapid purifications. Pharmacological characterization of desalted eluates and SRBS scale-up has followed apparently as a result of these rapid purifications. SDS-PAGE of specifically eluted samples yielded three **proteins** which **migrated** as 28 kDa, 40 kDa and 65 kDa bands. A partial amino acid sequence of 15 amino acids on the 28 kDa **protein** suggests that it is a member of a group of **proteins** known as the cyclophilins. The discussion concentrates on the possible relationships between these three **proteins** and the biological implications of these findings.

CLASSIFICATION: 0487 CHEMISTRY, BIOCHEMISTRY; 0491 CHEMISTRY, PHARMACEUTICAL

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ACCESSION NUMBER: 88:29601 DISSABS Order Number: AAR0564935 (not available for sale by UMI)

TITLE: APPLICATION OF SURFACE THERMODYNAMICS TO THE MICROENCAPSULATION OF MAMMALIAN CELLS

AUTHOR: LAMBERTI, FRANCIS VINCENT [PH.D.]; SEFTON, M. V. [advisor]

CORPORATE SOURCE: UNIVERSITY OF TORONTO (CANADA) (0779)

SOURCE: Dissertation Abstracts International, (1988) Vol. 50, No. 1B, p. 261. Order No.: AAR0564935 (not available for sale by UMI).

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

ENTRY DATE: Entered STN: 19921118
Last Updated on STN: 19921118

ABSTRACT: Adsorption of polyacrylate copolymers from an aqueous emulsion to gel beads containing **immobilized** tissue cells. Polymer adsorption to hydrogel surfaces was modeled using the thermodynamic work of adhesion.

The thermodynamic work of adhesion was calculated using interfacial surface tensions obtained from receding water contact angle measurements on hydrogel surfaces and an equation of state. Polyacrylate copolymers of HEMA-MMA

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Thus, tat may transactivate HIV expression by interacting with host **proteins** that act through TAR sequences and/or upstream regulatory sites. The focus of this research was to identify and characterize cellular **proteins** that interact with tat **protein** utilizing the methodology of chemical synthesis.

Full-length biologically active tat was chemically synthesized (s-tat) and characterized by fast atom bombardment-**mass spectroscopy**, SDS-PAGE and isoelectric focusing. Biological activity was determined by introduction of s-tat by chloroquine and scrape loading into cells containing the CAT gene under the control of HIV LTR DNA. Antibodies were raised against s-tat and tested for their ability to detect biologically synthesized tat.

s-tat was bound to a **solid support** for use as an affinity matrix. HeLa nuclear extracts were bound and eluted from heparin **agarose** and then passed over an s-tat affinity column and eluted **proteins** were tested for binding to HIV LTR restriction fragments by gel mobility assays. From this analysis, we discovered that the s-tat affinity columns retained **proteins** that bound a restriction fragment that contained two NF-Kappa B and three Sp1 **binding sites.** Mobility shift assays were performed utilizing NF-Kappa B and Sp1 synthetic oligonucleotides. The eluates from the s-tat column showed binding to Sp1 and less binding to NF-Kappa B. Ultraviolet crosslinking assays were performed to further confirm the presence of Sp1 in the eluates.

Segments of s-tat peptides were synthesized to identify the segments of tat involved in contact with Sp1. Utilizing s-tat peptide affinity chromatography, we determined that residues between 30 and 51 may be involved with tat-Sp1 interaction. s-tat peptides with mutations known to abolish tat transactivation were tested to see if they have different abilities to interact with Sp1.

CLASSIFICATION: 0307 BIOLOGY, MOLECULAR; 0487 CHEMISTRY, BIOCHEMISTRY

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ACCESSION NUMBER: 93:63123 DISSABS Order Number: AAR9333622

TITLE: ISOLATION AND PARTIAL AMINO ACID SEQUENCE OF A **PROTEIN** WITH PHYSICAL AND PHARMACOLOGICAL CHARACTERISTICS OF THE SIGMA RECEPTOR/**BINDING SITE** (HALOPERIDOL, CYCLOPHILINS)

AUTHOR: EHRLICH, GEORGE KENNETH [PH.D.]; SCHUSTER, DAVID I. [advisor]

CORPORATE SOURCE: NEW YORK UNIVERSITY (0146)

SOURCE: Dissertation Abstracts International, (1993) Vol. 54, No. 7B, p. 3600. Order No.: AAR9333622. 170 pages.

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

ENTRY DATE: Entered STN: 19931221
Last Updated on STN: 19931221

ABSTRACT: An oximino-derivative of haloperidol (OB101) was synthesized for use as an affinity ligand in the purification of the Sigma Receptor/**Binding Site** (SRBS). Owing to its high density and lack of

binding capacity of the polyelectrolytes correlated well with the rate of electron transfer from substrate-reduced enzymatic active sites to redox polymers but it was also influenced by the proximity of the enzymatic redox cofactor to the enzymatic surface. Not only overall charge, but also local charges on the **enzyme** molecule, and possibly hydrophobic forces influenced the interactions. **Enzyme** electrodes were thus constructed using ten oxidases and PQQ dehydrogenases. Crosslinked electrodes (with a diepoxide or a polyaziridine) of six **enzymes** (glucose, glycerophosphate, lactate, D-amino-acid, glutamate and sarcosine oxidases) were analyzed based on the kinetic solution of a model treating the combined diffusion-kinetics problem. The full ping-pong rate expression was used to analyze electrodes that were individually proven to be kinetically limited and for which the model parameters (**enzyme** and polymer concentration and **film** thickness) were determined. Based on this analysis all the kinetic constants (turnover number (k$\sb2$), intrinsic reaction constant for the substrate (K$\sb{\rm s}$), and electron transfer rate constant between **enzyme** and polymer (k$\sb3$)) were determined for the **immobilized** system. It was found that for all **enzymes** k$\sb2$ was generally lowered, and the K$\sb{\rm s}$ moderately affected while k$\sb3$ ranged from 1 to 100 $\rm M\sp{-1}s\sp{-1}.$ The implications of these findings were discussed, and the exploitation of the kinetic analysis for the construction of electrodes with improved dynamic range and sensitivity, oxygen tolerance, operational stability and selectivity was demonstrated with theoretical analysis and specific examples.

CLASSIFICATION: 0542 ENGINEERING, CHEMICAL; 0486 CHEMISTRY, ANALYTICAL; 0487 CHEMISTRY, BIOCHEMISTRY

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ACCESSION NUMBER: 94:3458 DISSABS Order Number: AAR9402418

TITLE: STRUCTURAL AND FUNCTIONAL STUDIES OF HUMAN IMMUNODEFICIENCY VIRUS-1 TRANSACTIVATING **PROTEIN** TAT (IMMUNE DEFICIENCY)

AUTHOR: CHUN, RENE FRANZ [PH.D.]; FAN, HUNG [advisor]

CORPORATE SOURCE: UNIVERSITY OF CALIFORNIA, IRVINE (0030)

SOURCE: Dissertation Abstracts International, (1993) Vol. 54, No. 8B, p. 3988. Order No.: AAR9402418. 179 pages.

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

ENTRY DATE: Entered STN: 19940125
Last Updated on STN: 19940125

ABSTRACT: Human immunodeficiency virus (HIV) is the causative agent of acquired immunodeficiency syndrome (AIDS). Tat is an eighty-six residue viral regulatory **protein** responsible for transactivation of HIV gene expression. Tat acts through the transacting responsive region (TAR) (+19 to +42) within the HIV long terminal repeat (LTR). Tat binds with TAR sequences in the RNA form. Upstream regulatory sequences appear to be important to transactivation also. Cellular **proteins** have been shown to bind TAR DNA/RNA and other HIV LTR DNA sequences.

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spread on a trough and compressed to generate a characteristic pressure-area curve. The molecular weight calculated from the "gaseous phase" of the pressure-area curve suggests that both native luciferase and BCCP-luciferases are monomers at air-water interfaces. Dynamic surface tension studied by pendant drop tensiometry suggests that luciferase pretreated in urea solutions adsorbs more rapidly onto air-water interfaces than native luciferase. Luciferase incubation with charged lipids results in substantial conformational change and loss of activity. The results also show that luciferase adsorbs onto the liposomes and behaves like an extrinsic membrane **protein.**

Since **protein** folding depends on physical interactions with the solution, activators or inhibitors may modify **protein** structure via changes in the local solution environment, facilitating or inhibiting **protein** activity. A significant cooperative enhancement was observed in the presence of both surfactant/polymer and Coenzyme A. Triton X-100 was also found to be a protectant against the inhibition effect of 1,2-dioleoyl-sn-glycerol-3- (phospho-L-serine).

A simple air drying protocol was studied, using trehalose as a stabilizer, to extend the shelf life of luciferase reagents and prevent the collapse of **agarose** gel when drying. A conceptual design for a direct reading, spatial resolution ATP sensor was presented and feasibility was demonstrated.

CLASSIFICATION: 0541 ENGINEERING, BIOMEDICAL; 0307 BIOLOGY, MOLECULAR

L131 ANSWER 29 OF 44 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 94:43662 DISSABS Order Number: AAR9428570

TITLE: DEVELOPMENT AND ANALYSIS OF OPERATION OF **ENZYME** ELECTRODES BASED ON ELECTROCHEMICALLY "WIRED" OXIDOREDUCTASES

AUTHOR: KATAKIS, IOANIS [PH.D.]; HELLER, ADAM [advisor]

CORPORATE SOURCE: THE UNIVERSITY OF TEXAS AT AUSTIN (0227)

SOURCE: Dissertation Abstracts International, (1994) Vol. 55, No. 6B, p. 2299. Order No.: AAR9428570. 266 pages.

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

ENTRY DATE: Entered STN: 19941201
Last Updated on STN: 19941201

ABSTRACT:

Several redox polymeric complexes of osmium bis(bipyridine) with poly(vinyl pyridine or imidazole) were synthesized. The osmium loading and the nature and charge of the side chains of such polymers were varied so that their physical and electrochemical properties were rationally modified to produce polymers with redox potentials from 0.3 to 0.1 V (SCE), molar content of osmium between 20 and 50%, overall charge from highly cationic to overall anionic, and electron diffusion coefficients from $8\times 10\sp{-10}$ to $\rm 10\sp{-8}\ cm\sp2s\sp{-1}.$ These polymers were used to study their interactions with native and chemically altered **enzymes** with isoelectric points ranging from 3 to 9. Interactions were detected and quantified with a novel isoelectric focusing method on 1% **agarose** gels. It was found that the

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demonstrate specific binding of the **enzyme** through a Ni-NTA linker. The subsequent polymerization within the patterned areas was characterized by fluorescent microscopy, atomic force microscopy, InfraRed spectroscopy and wide angle X-ray diffraction. In addition, the polymer growth on the gold surface was directly monitored by surface plasmon resonance (SPR). SPR experiments revealed the polymerization kinetics on the surface and the effect of **enzyme** concentration on the final **film** thickness. Significantly, the process of surface modifications could be reversed from "graft from" to "graft onto" by exploiting a unique characteristic of the catalytic mechanism of this **enzyme.** In PHA synthase, the polymer chain remains covalently attached to the synthase once synthesis has terminated, resulting in the formation of a highly stable polymer-**protein** complex structure. The introduction of a histidine tag to the **protein** thus allowed the polymer-**protein** complexes to be reversibly grafted onto Ni-NTA-coated surfaces. This work overall demonstrates how variable functional peptide units can be introduced into a polymeric material through genetic engineering and used for mediating specific biomolecular interactions with a given ligand or receptor.

CLASSIFICATION: 0359 AGRICULTURE, FOOD SCIENCE AND TECHNOLOGY; 0495 CHEMISTRY, POLYMER; 0539 ENGINEERING, AGRICULTURAL

L131 ANSWER 28 OF 44 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 97:70808 DISSABS Order Number: AAR9735469
TITLE: FIREFLY LUCIFERASE: ACTIVITY, STABILITY AND SENSOR APPLICATIONS (**PROTEIN** FOLDING)
AUTHOR: WANG, CHUNG-YIH [PH.D.]
CORPORATE SOURCE: THE UNIVERSITY OF UTAH (0240)
SOURCE: Dissertation Abstracts International, (1997) Vol. 58, No. 6B, p. 3172. Order No.: AAR9735469. 255 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 19971104
Last Updated on STN: 19971104

ABSTRACT: Recombinant luciferase containing a biotin carboxyl carrier **protein** (BCCP) was expressed in E. coli. Posttranslational modification results in a biotin on the BCCP domain of the fusion luciferase. Six histidine residues at the N-terminal of BCCP-luciferase enable a one-step purification by Ni$\sp{2+}$-nitrilotriacetic acid **agarose.** The highly purified BCCP-luciferase was characterized and compared with native luciferase purified from firefly lanterns. Both luciferases presented similar activity and stability. The biotinylated firefly luciferase is **immobilized** on the avidin-coupled surfaces. The process avoids chemical modification of luciferase, thus retaining high activity, and making it suitable for sensor applications.

Luciferase at different model interfaces was studied to understand its folding, stability and surface properties. Adsorption of luciferase from bulk solution to the air-water interface suggests it is more surface active than bovine serum albumin. Luciferase **films** were

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CaM were assayed using MBP-CaM labeled with **donor** and **acceptor** dyes, MBP-CaM-DA. Experiments reveal that MBP-CaM-DA binds to the CaM antagonist, amitriptyline, with the same affinity both free in solution and in **agarose** gels. Additionally, MBP-Cam-DA, **immobilized** in **agarose** gels, was used to measure the high affinity binding constant of a peptide target of CaM directly. Single molecule fluorescence spectroscopy was used to monitor the conformational fluctuations of CaM on both the micro- and millisecond timescales. These experiments show differences in the dynamics of CaM in the presence and absence of calcium.

Lastly, a thorough investigation of the pH dependent photophysics of indoline and indoline-2-carboxylic acid (I2CA) using ultra-fast spectroscopy is presented. I2CA is a fluorescent analog of proline where its emission dipole is tethered to the peptide backbone; thus eliminating floppy side chain motions present in the native fluorescent amino acids. I2CA allows the global conformational changes of enkephlin-like penta-peptides to be examined. This work determined the relaxation mechanisms of indoline and I2CA by comparison to other aromatic amines like indole.

CLASSIFICATION: 0486 CHEMISTRY, ANALYTICAL; 0786 BIOPHYSICS, GENERAL; 0494 CHEMISTRY, PHYSICAL

L131 ANSWER 27 OF 44 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 2004:2673 DISSABS Order Number: AAI3087052
TITLE: Nanoengineering of solid surfaces using an in-vitro synthesized biological polymer
AUTHOR: Kim, Young-Rok [Ph.D.]; Batt, Carl A. [advisor]
CORPORATE SOURCE: Cornell University (0058)
SOURCE: Dissertation Abstracts International, (2003) Vol. 64, No. 4B, p. 1565. Order No.: AAI3087052. 117 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 20040107
Last Updated on STN: 20040107

ABSTRACT: Polyhydroxyalkanotes (PHAs) are aliphatic polyesters produced by a wide range of microorganisms as intracellular carbon and energy storage compounds. PHA has received significant interest from industry and academia because it is a biocompatible and biodegradable thermoplastic with potential applications in consumer and medical products. One of the key **enzymes** in PHA biosynthesis is PHA synthase, which catalyzes the polymerization of 3-(R)-hydroxyacyl-CoA to poly (3-hydroxyalkanoate) [PHA].

In this work, different types of solid substrates, such as **agarose**, silicon and gold were modified by the in situ synthesis of PHA on the surface. In order to carry out these surface modifications, the PHA synthase from Ralstonia eutropha H16 was **immobilized** onto solid substrates through a transition-metal complex, Ni2+-nitrilotriacetic acid (Ni-NTA). **Immobilized** PHA synthase catalyzed the surface-initiated polymerization of 3-(R)-hydroxybutyryl-CoA, resulting in the formation of a polymer **film** on the surface. The **immobilization** of intact **enzymes** onto patterned silicon substrates was also conducted to

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analysis 9002-84-0, Teflon 9002-88-4 9003-53-6, Polystyrene
9012-36-6, Sepharose 9014-76-0, Sephadex 9036-19-5, Octoxynol
18358-13-9D, Methacrylate, derivs., analysis 19295-34-2, Vinylpyridinium
25014-41-9, Polyacrylonitrile 25322-68-3 29557-51-5,
Dodecylphosphocholine 37758-47-7, Ganglioside GM1 58846-77-8,
Decylglucoside 59247-13-1, Ganglioside GT1b 60676-86-0, Silica,
vitreous 66990-32-7, 10,12-Pentacosadiynoic acid 120650-77-3
137870-33-8 138305-24-5, 5,7-Pentacosadiynoic acid 144314-93-2
146064-05-3 146064-07-5 155020-22-7 162635-75-8 178560-65-1,
5,7-Docosadiynoic acid 211996-58-6
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L131 ANSWER 26 OF 44 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 2005:19287 DISSABS Order Number: AAI3143336
TITLE: Analytical chemistry at the extremes: Ultrafast and single molecule fluorescence spectroscopic investigations of biological systems
AUTHOR: Allen, Michael W. [Ph.D.]; Johnson, Carey K. [advisor]
CORPORATE SOURCE: University of Kansas (0099)
SOURCE: Dissertation Abstracts International, (2004) Vol. 65, No. 8B, p. 3993. Order No.: AAI3143336. 229 pages.
ISBN: 0-496-01358-0.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 20050427
Last Updated on STN: 20050427

ABSTRACT: This dissertation describes bioanalytical research at two extremes, the ultra-fast timescale and single-molecule spectroscopy. Ultra-fast spectroscopy was used to characterize the spectroscopic and photophysical behavior of a fluorescent analogue of proline, indoline-2-carboxylic acid (I2CA). Single molecule spectroscopy was used to monitor the Ca2+ and target dependent conformation changes of the calcium signaling **protein**, calmodulin (CaM) by the incorporation of an energy transfer fluorescent dye pair on CaM.

CaM, containing two genetically engineered cysteine residues, was labeled with a single donor and single acceptor dye. The simultaneous labeling of CaM required the development of an HPLC method to isolate the CaM molecules containing only a **donor** and **acceptor** dye (CaM-DA). CaM-DA functions as a sensor of peptide and drug molecule binding and was used to examine the target binding behavior of CaM. Surface **immobilization** was shown to perturb with the target binding functionality of CaM-DA, therefore, a construct was designed where CaM was fused to maltose binding **protein** (MBP-CAM). This fusion allows the **immobilization** of BP-CaM in low weight-percent **agarose** gels. In these gels, the Ca2+ and target binding conformational changes of

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Pathogen
Plasmodium (malarial genus)
Plasmodium falciparum
Rabies virus
Reoviridae
Rhinovirus
Rubella virus
Salmonella
Self-assembly
Self-association
Spectroscopy
Streptococcus
Sulfhydryl group
Surfactants
Toxoplasma gondii
Trypanosoma
Vaccinia virus
Variola virus
Vibrio vulnificus
Virus
(methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT Agglutinins and Lectins
DNA
Enzymes, analysis
Genetic element
Hormones, animal, analysis
RL: **ANT (Analyte)**; ANST (Analytical study)
(methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT Antibodies
Ligands
Proteins, general, analysis
RL: **ANT (Analyte)**; ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT Conformation
Immobilization, biochemical
(protein; methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT 56-40-6D, Glycine, diacetylene derivs., analysis 56-85-9D, L-Glutamine, diacetylene derivs., analysis 56-86-0D, L-Glutamic acid, diacetylene derivs., analysis 56-89-3D, Cystine, diacetylene derivs. 57-88-5, Cholesterol, analysis 62-53-3D, Benzenamine, siloxane derivs., analysis 63-42-3D, Lactose, diacetylene derivs. 63-91-2D, L-Phenylalanine, diacetylene derivs., analysis 71-00-1D, L-Histidine, diacetylene derivs., analysis 73-32-5D, L-Isoleucine, diacetylene derivs., analysis 79-06-1D, 2-Propenamide, derivs., analysis 83-44-3 109-97-7D, Pyrrole, derivs. 110-02-1D, Thiophene, derivs. 111-87-5, 1-Octanol, analysis 123-78-4, D-Erythro-Sphingosine 151-21-3, analysis 460-12-8D, Diacetylene, derivs. 583-93-7D, 2,6-Diaminopimelic acid, diacetylene derivs. 1121-34-2, Malic anhydride 4067-16-7D, Pentaethylenehexamine, diacetylene derivs. 7440-57-5, Gold, analysis 7631-86-9, Silica,

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biopolymeric materials change color in the presence of analyte. In some embodiments, the protein ligands are selected from the group consisting of peptides, proteins, antibodies, receptors, channels, and combinations thereof, although the present invention contemplates all protein ligands. In specific embodiments, the antibodies of the presently claimed invention are directed against Chlamydia.

IC ICM G01N021-00
ICS G01N031-20; G01N033-544; G01N033-538; G01N033-53; G01N033-567; G01N033-537; G01N033-543; C12M001-00; C12N001-00; C12N001-20

CC 9-16 (Biochemical Methods)
Section cross-reference(s): 6, 10, 80

IT **Films**
Liposomes
(biopolymeric; methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT Amino group
Bacteria (Eubacteria)
Biosensors
Blood
Blood analysis
Bond
Buffers
Carboxyl group
Cell
Chelating agents
Chlamydia
Chromophores
Color
Color reaction
Colorimetry
Coupling agents
Dopants
Drugs
Electron acceptors
Electron donors
Environmental pollution
Escherichia coli
Filters
Formyl group
Fungi
Hepatitis A virus
Hepatitis B virus
Human herpesvirus
Human herpesvirus 3
Human herpesvirus 4
Human immunodeficiency virus
Human poliovirus
Hydrophilicity
Hydrophobicity
Hydroxyl group
Immobilization, biochemical
Immunoassay
Influenza virus
Ions
Molecular topology
Mycobacterium tuberculosis
Neisseria gonorrhoeae
Onchocerca
Parasite

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Section cross-reference(s): 15

IT Allergens
Antigens
Enzymes, analysis
Gene
Macromolecular compounds
RL: **ANT (Analyte)**; ANST (Analytical study)
(identification of particles and macromol. species by collection and anal. on a surface)

IT **Immobilization**, biochemical
(of macromols. associated with particles; identification of particles and macromol. species by collection and anal. on a surface)

IT **9012-36-6**, Agarose
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); DEV (Device component use); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(as thin **film** on macromol. species-binding material; identification of particles and macromol. species by collection and anal. on a surface)

IT **9012-36-6D**, Agarose, modified
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); DEV (Device component use); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(to bind macromol. species; identification of particles and macromol. species by collection and anal. on a surface)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L131 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:568970 CAPLUS
DOCUMENT NUMBER: 129:200179
TITLE: Methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes
INVENTOR(S): Stevens, Raymond; Quan, Cheng
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 121 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 11
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9836263	A1	19980820	WO 1998-US2777	19980213
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9861627	A1	19980908	AU 1998-61627	19980213
EP 1007943	A1	20000614	EP 1998-906389	19980213
R: CH, DE, FR, GB, LI				

PRIORITY APPLN. INFO.: US 1997-38383P P 19970214
WO 1998-US2777 W 19980213

ED Entered STN: 07 Sep 1998
AB The present invention relates to methods and compns. for the direct detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes. The invention provides biopolymeric materials comprising a plurality of polymerized self-assembling monomers and one or more protein ligands, wherein the

colorimetric analyte detectors using self-assembling polydiacetylene liposomes)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L131 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:468709 CAPLUS
DOCUMENT NUMBER: 131:113412
TITLE: Identification of particles and macromolecular species by collection and analysis on a surface
INVENTOR(S): Tovey, Euan Roger; O'Meara, Timothy John; Jones, Allan Sidney
PATENT ASSIGNEE(S): Bellon Pty. Limited, Australia; The Institute of Respiratory Medicine Limited
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9936773	A1	19990722	WO 1999-AU17		19990113
W: AU, JP, US					
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
AU 9920403	A1	19990802	AU 1999-20403		19990113
PRIORITY APPLN. INFO.:			AU 1998-1310	A	19980113
			WO 1999-AU17	W	19990113

ED Entered STN: 30 Jul 1999
AB A method of detection and/or identification of particles is disclosed. The method comprises the steps of: (a) collecting the particles onto a surface; (b) allowing macromol. species associated with the particles to diffuse from the particles; (c) immobilizing any diffused macromol. species in close proximity to the particles, wherein an immobilized macromol. species is sufficiently close to a particle so as to be indicative as being diffused from the particle; (d) analyzing the immobilized macromol. species to determine one or more characteristics of macromol. species; (e) comparing the determined one or more characteristics of macromol. species characteristics with a reference base of known characteristics of macromol. species associated with particles; and (f) using the comparison of the determined one or more macromol. species characteristics to indirectly detect and/or identify at least one particle type present on the surface associated with the analyzed macromol. species immobilized in close proximity to the particle. Air samples were collected for 1 h by inertial impaction during normal breathing in houses using intranasal samplers. Inhaled particles were collected withing the sampler onto a transparent adhesive tape which was overlayed with a protein-binding PVDF membrane after sampling was completed. The membrane/adhesive sandwich was wetted with 80% MeOH and then incubated in borate buffer overnight to allow allergens from the particles to bind to the membranes. Vacant binding sites were blocked with skim milk and then the membranes were immunostained with anti-cockroach monoclonal antibody, anti-mouse antibody conjugated with alkaline phosphatase, and BCIP/NBT substrate. Particles containing the allergen were identified by the presence of a halo of stain around the particle.
IC ICM G01N033-483
ICS G01N033-53; G01N033-559
CC 9-16 (Biochemical Methods)

Searched by Barb O'Bryen, STIC 2-2518

US 2000-500295	A2	20000208
US 1992-982189	B2	19921125
EP 1996-906444	A3	19960213
US 1997-944257	A3	19971006
US 1999-337973	A	19990621
WO 1999-US14029	W	19990622
US 1999-170190P	P	19991210

ED Entered STN: 24 Oct 2001

AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces of polydiacetylene liposomes and related mol. layer systems. Liposomes were prepared from a lipid mixture of 95% 5,7-docsoadiynoic acid and 5% 5,7-docosadiynoate succinimide. The liposome solution was photopolymd. with UV light (254 nm) and then reacted with RGGGAATTCGTR (R = OP(OH)(O)OCH2(CH2OH)CH(CH2)4NH2) to make a probe.

IC C12Q001-68; C07H019-00; G01N033-543; G01N021-00

INCL 435006000

CC 9-5 (Biochemical Methods)
Section cross-reference(s): 3

IT **Films**
(biopolymeric; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Erythrocyte
(in malarial Plasmodium detection with sialic acid-containing PDA **films**; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Agglutinins and Lectins
Antibodies
DNA
Double stranded RNA
Enzymes, analysis
Hormones, animal, analysis
Nucleic acids
Receptors
Transcription factors
Volatile organic compounds
mRNA
rRNA
tRNA
RL: **ANT (Analyte)**; ANST (Analytical study)
(nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Antigens
Proteins, general, analysis
RL: **ANT (Analyte)**; ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT **Immobilization**, biochemical
(of biopolymer on support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 7440-57-5, Gold, uses 7631-86-9, Silica, uses 9002-84-0, Teflon 9002-88-4, Polyethylene 9003-53-6, Polystyrene **9012-36-6**, Sepharose 9041-35-4, Sepharose G 25 25014-41-9, Polyacrylonitrile
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(biopolymer immobilized on support of; nucleic acid-coupled

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Radionuclides, analysis
Vitamins
RL: **ANT (Analyte)**; ANST (Analytical study)
(organic semiconductor recognition complex and system)

IT **9003-05-8**, Polyacrylamide 9004-34-6, Cellulose, uses
9012-36-6, Agarose
RL: DEV (Device component use); USES (Uses)
(recognition complexes embedded in matrix of; organic semiconductor recognition complex and system)

L131 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:772087 CAPLUS
DOCUMENT NUMBER: 135:341173
TITLE: Nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes
INVENTOR(S): Charych, Deborah H.; Jonas, Ulrich
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 461,509.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 11
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6306598	B1	20011023	US 1999-337973	19990621
US 6001556	A	19991214	US 1996-592724	19960126
EP 1460423	A1	20040922	EP 2004-1595	19960213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
US 6183772	B1	20010206	US 1996-609312	19960301
US 6022748	A	20000208	US 1997-920501	19970829
US 6080423	A	20000627	US 1997-944257	19971006
US 6180135	B1	20010130	US 1997-944323	19971006
US 6468759	B1	20021022	US 1998-33557	19980302
CA 2330937	AA	19991229	CA 1999-2330937	19990622
JP 2004500006	T2	20040108	JP 2000-556063	19990622
US 6395561	B1	20020528	US 1999-461509	19991214
US 6485987	B1	20021126	US 2000-500295	20000208
US 2001026915	A1	20011004	US 2000-734410	20001211
US 6660484	B2	20031209		

PRIORITY APPLN. INFO.:
US 1992-976697 A2 19921113
US 1993-159927 A2 19931130
US 1994-289384 B2 19940811
US 1994-289384 B2 19940811
US 1994-328237 B2 19941024
US 1995-389475 B3 19950213
US 1995-389475 B2 19950213
US 1996-592724 A3 19960126
US 1996-609312 A2 19960301
US 1997-38383P P 19970214
US 1997-39749P P 19970303
US 1997-50496P P 19970623
US 1997-920501 A3 19970829
US 1998-944323 A2 19971006
US 1998-23898 A2 19980213
US 1998-33557 A2 19980302
US 1998-90266P P 19980622
US 1998-103344 A2 19980623
US 1999-461509 A2 19991214

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(DALM) was used as the organic semiconductor in the preparation of DNA-based recognition complex system. DALM was also useful in the neutralization of Bacillus anthracis spores.

IC ICM G01N033-00

CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3, 4, 8, 79, 80

IT Langmuir-Blodgett **films**
Membranes, nonbiological
(as surface to which recognition complexes are attached; organic semiconductor recognition complex and system)

IT Air analysis
Alarm devices
Algae
Amoeba
Analytical apparatus
Antivenoms
Bacillus anthracis
Bacteria (Eubacteria)
CCD cameras
Carcinogens
Charge coupled devices
Colorimetry
Dinoflagellate (Dinophyceae)
Drug screening
Electrodes
Explosives
Fluorometers
Fluorometry
Food analysis
Immobilization, biochemical
Luminescence spectroscopy
Magnetic separation
Matrix media
Memory devices
Mold (fungus)
Molecular association
Mutagens
Narcotics
Nucleic acid library
PCR (polymerase chain reaction)
Pesticides
Pharmaceutical analysis
Photomultipliers
Poisons, nonbiological source
Psychotomimetics
Pumps
Semiconductor compounds
Spectrometers
Spore
Teratogens
Thermal cycling
UV lamps
Virus
Wastes
Yeast
(organic semiconductor recognition complex and system)

IT Allergens
Carbohydrates, analysis
Lipids, analysis
Proteins, general, analysis

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RL: DEV (Device component use); USES (Uses)
(**films**, linking probe with microelectrodes; protein and peptide sensors using elec. detection methods)

IT **9003-05-8**, Polyacrylamide 9004-34-6, Cellulose, uses
9012-36-6, Agarose
RL: DEV (Device component use); USES (Uses)
(gel linking probe with microelectrodes; protein and peptide sensors using elec. detection methods)

L131 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:64258 CAPLUS
DOCUMENT NUMBER: 134:128189
TITLE: Organic semiconductor recognition complex and system
INVENTOR(S): Kiel, Johnathan L.; Bruno, John G.; Parker, Jill E.; Alls, John L.; Batishko, Charles R.; Holwitt, Eric A.
PATENT ASSIGNEE(S): Conceptual Mindworks, Inc., USA
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001006249	A2	20010125	WO 2000-US18173	20000630
WO 2001006249	A3	20020530		
WO 2001006249	B1	20020627		
WO 2001006249	C2	20020906		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2379711	AA	20010125	CA 2000-2379711	20000630

PRIORITY APPLN. INFO.:		
US 1999-142301P	P	19990702
US 2000-199620P	P	20000425
WO 2000-US18173	W	20000630

ED Entered STN: 26 Jan 2001

AB In a recognition complex system, nucleic acid ligands comprising random DNA sequences are operatively coupled to an organic semiconductor and distributed so as to form an array of recognition complexes. When an unknown chemical or biol. analyte is applied to the array, the elec. and/or photochem. properties of one or more of the recognition complexes are altered upon binding of the nucleic acid ligand to the analyte. The degree to which the elec. and/or photochem. properties change is a function of the affinity of the nucleic acid ligand sequence for the analyte. The elec. and photochem. changes associated with the array, as a whole, can be used as a unique signature to identify the analyte. In certain embodiments, an iterative process of selection and amplification of nucleic acid ligands that bind to the analyte can be used to generate a new array with greater affinity and specificity for a target analyte, or to produce one or more nucleic acid ligands with high binding affinity for an analyte. The present invention also provides methods for preparing nucleic acid ligands that bind with high affinity to an analyte and using such nucleic acid ligands to neutralize the analyte. Diazoluminomelanin

WO 2001061053	A2	20010823	WO 2001-US5476	20010220
WO 2001061053	A3	20020314		
WO 2001061053	C2	20021017		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6824669	B1	20041130	US 2000-506178	20000217
CA 2404492	AA	20010823	CA 2001-2404492	20010220
EP 1257820	A2	20021120	EP 2001-911028	20010220

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2005023155	A1	20050203	US 2003-203874	20030609
PRIORITY APPLN. INFO.:			US 2000-506178	A2 20000217
			WO 2001-US5476	W 20010220

ED Entered STN: 24 Aug 2001

AB The present invention provides an apparatus and methods for the elec. detection of mol. interactions between a probe mol. and a protein or peptide target mol., but without requiring the use of electrochem. or other reporters to obtain measurable signals. The methods can be used for elec. detection of mol. interactions between probe mols. bound to defined regions of an array and protein or peptide target mols. which are permitted to interact with the probe mols. Streptavidin-modified porous polyacrylamide hydrogel microelectrodes were prepared Biotinylated polyclonal antibodies to Escherichia coli were immobilized on the microelectrodes and the sensor was used to detect Escherichia coli.

IC ICM C12Q001-68

CC 9-1 (Biochemical Methods)
Section cross-reference(s): 6, 10, 15

IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(co-, **films**, linking probe with microelectrodes; protein and peptide sensors using elec. detection methods)

IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(conjugated, **films**, linking probe with microelectrodes; protein and peptide sensors using elec. detection methods)

IT **Films**
(copolymer, linking probe with microelectrodes; protein and peptide sensors using elec. detection methods)

IT **Immobilization**, biochemical
(of probe interacting with protein or peptide target; protein and peptide sensors using elec. detection methods)

IT Peptides, analysis
Proteins, general, analysis
RL: **ANT (Analyte)**; BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(protein and peptide sensors using elec. detection methods)

IT 9033-83-4, Polyphenylene 25013-01-8, Polypyridine 25067-54-3, Polyfuran 25233-30-1, Polyaniline 25233-34-5, Polythiophene 30604-81-0, Polypyrrole 51555-21-6, Polycarbazole 82451-55-6, Polyindole 95270-88-5, Polyfluorene 96638-49-2, Poly(phenylenevinylene)

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mols. by mol. biol. or immunochem. reactions that are detected with reactive residue-containing detector oligonucleotides and quantified with detector reagents capable of forming covalent linkages with the reactive residues on detector oligonucleotides. Alternatively, amplicons of target nucleic acids generated with reactive residue-containing primer oligonucleotides are bound to immobilized capture mols. by mol. biol. or immunochem. reactions and quantified with detector reagents capable of forming covalent linkages with the reactive residues of captured amplicons. The quantity of reporter mols. provided or generated by covalently coupled detector reagents is a proportional measure of the quantity of target nucleic acids in the specimen. Enhanced covalent amplification systems include addnl. carrier systems for covalent attachment of multiple detector reagents and/or preformed covalently linked complexes of detector reagents.

IC ICM C12Q001-68
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 3
ST nucleic acid hybridization immobilization detector polymerase reagent agarose **film**
IT **Films**
(immobilized with modified oligonucleotides, sensor; system and method for detecting and quantifying nucleic acids using covalent binding)
IT Colorimetry
Electrochemistry
Fluorometry
Immobilization, molecular or cellular
Liposomes
Luminescence, bioluminescence
Luminescence, chemiluminescence
Nucleic acid amplification (method)
Nucleic acid hybridization
Sensors
(system and method for detecting and quantifying nucleic acids using covalent binding)
IT **Nucleic acids**
RL: **ANT (Analyte)**; ANST (Analytical study)
(system and method for detecting and quantifying nucleic acids using covalent binding)
IT 7631-86-9P, Silica, preparation **9012-36-6P**, Agarose
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(immobilized with modified oligonucleotides, sensor; system and method for detecting and quantifying nucleic acids using covalent binding)

L131 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:618212 CAPLUS
DOCUMENT NUMBER: 135:177678
TITLE: Protein and peptide sensors using electrical detection methods
INVENTOR(S): Sawyer, Jaymie Robin; Li, Changming; Choong, Vi-En; Maracas, George; Zhang, Peiming
PATENT ASSIGNEE(S): Motorola, Inc., USA
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

Searched by Barb O'Bryen, STIC 2-2518

Immobilization, molecular or cellular
Lithography
Micromachining
Nutrients
Photoresists
Physiological saline solutions
Sound and Ultrasound
Sputtering
Vapor deposition process
(device and method for three-dimensional cell deposition study)
IT Carbohydrates, analysis
Chemokines
Cytokines
Enzymes, analysis
Lipids, analysis
Peptides, analysis
RL: **ANT (Analyte)**; ANST (Analytical study)
(device and method for three-dimensional cell deposition study)
IT 112-04-9, Octadecyltrichlorosilane 7440-21-3, Silicon, uses 9003-16-1, Polyfumaric acid 9004-61-9, Hyaluronan 9005-32-7, Alginic acid 9005-32-7D, Alginic acid, methacrylates 9005-35-0, Calcium alginate 9011-14-7, Polymethylmethacrylate **9012-36-6**, Agarose 9016-00-6, Polydimethylsiloxane 14808-60-7, Quartz, uses 25248-42-4, Polycaprolactone 25322-68-3, Polyethyleneglycol 26009-03-0, Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26063-00-3, Poly-β-hydroxybutyrate 26913-90-6, Poly-D-lysine 34346-01-5, Poly(lactic acid-glycolic acid)
RL: DEV (Device component use); USES (Uses)
(device and method for three-dimensional cell deposition study)

L131 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:793840 CAPLUS
DOCUMENT NUMBER: 137:307012
TITLE: System and method for detecting and quantifying nucleic acids using covalent binding
INVENTOR(S): Bredehorst, Reinhard; Hintsche, Rainer; Heuberger, Anton
PATENT ASSIGNEE(S): Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung e.V., Germany
SOURCE: PCT Int. Appl., 131 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002081738	A2	20021017	WO 2002-EP3891	20020408
WO 2002081738	A3	20031120		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1385997	A2	20040204	EP 2002-727542	20020408
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRIORITY APPLN. INFO.: US 2001-282169P P 20010409
WO 2002-EP3891 W 20020408
ED Entered STN: 18 Oct 2002
AB The invention concerns target nucleic acids bound to immobilized capture

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deposition study

INVENTOR(S): Hammerick, Kyle; Prinz, Friedrich B.; Smith, Robert Lane; Greco, Ralph S.; Faschng, Rainer

PATENT ASSIGNEE(S): The Board of Trustees of the Leland Stanford Junior University, USA

SOURCE: PCT Int. Appl., 88 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002092778	A2	20021121	WO 2002-US15746	20020517
WO 2002092778	A3	20030530		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-291814P P 20010517

ED Entered STN: 22 Nov 2002

AB The invention concerns a device, method and process for three-dimensional spatial localization and functional interconnection of the same or different types of cells. The two or three-dimensional device comprising multiple layers containing wells for cell deposition where both the wells and layers are interconnected through microfluidic channels. A process for fabricating the three-dimensional device and a method for depositing different types of cells within the device in a functional interdependent spatial orientation thereby mimicking physiol. functions. The device is useful for diagnostic assays, determination of dysfunction of certain cells in the system, quantification of production of cellular proteins, metabolites, hormones or other cellular products, for organ or tissue replacement, for co-culturing different cells, for testing pharmaceutical agents and as a bioreactor for production of biologicals. Diagrams describing the apparatus assembly and operation are given.

IC ICM C12N

CC 9-1 (Biochemical Methods)

ST app deposition cell fluidic localization polymer bioreactor **film** coating

IT Adhesives
Animal cell
Animal tissue
Biodegradable materials
Bioreactors
Blood serum
Buffers
Coating materials
Culture media
Electric potential
Etching
Films
Flow

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IT Photoresists
(dry-**film**; method and system for detection of cardiac risk factors)
IT **9012-36-6**, Agarose
RL: ARG (Analytical reagent use); DEV (Device component use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(beads, antibodies immobilized on; method and system for detection of cardiac risk factors)

L131 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:163488 CAPLUS
DOCUMENT NUMBER: 141:238980
TITLE: Surface modifications of glass slides used for protein microarray
AUTHOR(S): Zhang, Chunxiu; Mei, Qian; Gu, Ying; Tang, Zuming; He, Nongyue; Lu, Zuhong
CORPORATE SOURCE: National Laboratory for Molecular and Biomolecular Electronics, Southeast University, Nanjing, 210096, Peop. Rep. China
SOURCE: Zhonghua Jianyan Yixue Zazhi (2003), 26(4), 219-221
CODEN: ZJYZAP; ISSN: 1009-9158
PUBLISHER: Zhonghua Yixuehui Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 01 Mar 2004
AB Four chemical modification methods of glass substrates for protein immobilization were evaluated. Four different kinds of glass slides were made: glutaraldehyde modified glass, agarose film coated glass, mercapto-group modified glass, and polylysine modified glass. The efficiencies of protein immobilization and the activities of immobilized proteins on the glass were discussed. All four kinds of modification methods had abilities in immobilizing proteins and keeping the activity of the proteins. Among them, the glass slides modified with polylysine had 31.5% higher efficiencies of protein immobilization and 26.6% higher activities of the proteins than those of glutaraldehyde modified glasses. The glasses modified with polylysine have higher efficiencies for protein immobilization and high activities of proteins.
CC 9-1 (Biochemical Methods)
IT **Immobilization**, molecular or cellular
(protein; surface modifications of glass slides used for protein microarray)
IT **Films**
Glass substrates
Protein microarray technology
Sulfhydryl group
Surface treatment
(surface modifications of glass slides used for protein microarray)
IT **Proteins**
RL: **ANT (Analyte)**; ANST (Analytical study)
(surface modifications of glass slides used for protein microarray)
IT 111-30-8, Glutaraldehyde **9012-36-6**, Agarose 25104-18-1, Polylysine 38000-06-5, Polylysine
RL: DEV (Device component use); USES (Uses)
(surface modifications of glass slides used for protein microarray)

L131 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:888899 CAPLUS
DOCUMENT NUMBER: 137:365917
TITLE: Device and method for three-dimensional cell

Searched by Barb O'Bryen, STIC 2-2518

L131 ANSWER 17 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:875049 CAPLUS
DOCUMENT NUMBER: 139:347712
TITLE: Method and system for the detection of cardiac risk factors
INVENTOR(S): McDevitt, John T.; Anslyn, Eric V.; Shear, Jason B.; Neikirk, Dean P.; Christodoulides, Nick J.
PATENT ASSIGNEE(S): Board of Regents, the University of Texas System, USA
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003090605	A2	20031106	WO 2003-US12951	20030428
WO 2003090605	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004029259	A1	20040212	US 2003-427744	20030428
EP 1502097	A2	20050202	EP 2003-726476	20030428
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2002-375775P P 20020426
WO 2003-US12951 W 20030428

ED Entered STN: 07 Nov 2003

AB A system for the rapid characterization of multi-cardiovascular risk factor analyte fluids, in one embodiment, includes a light source, a sensor array, and a detector. The sensor array is formed from a supporting member, in which a plurality of cavities may be formed. A series of chemical sensitive particles, in one embodiment, are positioned within the cavities. The particles may produce a signal when a receptor, coupled to the particle, interacts with the cardiovascular risk factor analyte and the particle-analyte complex is visualized using a visualization reagent. Using pattern recognition techniques, the analytes within a multi-analyte fluid may be characterized. In an embodiment, each cavity of the plurality of cavities is designed to capture and contain a specific size particle. Flexible projections may be positioned over each of the cavities to provide retention of the particles in the cavities. C-reactive protein was detected using a sensor array system.

IC ICM A61B
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 14
IT **Proteins**
RL: **ANT (Analyte)**; DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(C-reactive; method and system for detection of cardiac risk factors)
IT **Immobilization**, molecular or cellular
(antibody; method and system for detection of cardiac risk factors)

Searched by Barb O'Bryen, STIC 2-2518

L131 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:921248 CAPLUS
DOCUMENT NUMBER: 142:312553
TITLE: Fabrication and characterization of 3D hydrogel microarrays to measure antigenicity and antibody functionality for biosensor applications
AUTHOR(S): Charles, Paul T.; Goldman, Ellen R.; Rangasammy, Jermain G.; Schauer, Caroline L.; Chen, Mu-San; Taitt, Chris R.
CORPORATE SOURCE: US Naval Research Laboratory, Center for Bio/Molecular Science and Engineering (Code 6900), Washington, DC, 20375, USA
SOURCE: Biosensors & Bioelectronics (2004), 20(4), 753-764
CODEN: BBIOE4; ISSN: 0956-5663
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Nov 2004
AB We report the fabrication, characterization and evaluation of three-dimensional (3D) hydrogel thin films used to measure protein binding (antigenicity) and antibody functionality in a microarray format. Protein antigenicity was evaluated using the protein toxin, staphylococcal enterotoxin B (SEB), as a model on highly crosslinked hydrogel thin films of polyacrylamide and on two-dimensional (2D) glass surfaces. Covalent crosslinking conditions were optimized and quantified. Interrogation of the modified 3D hydrogel was measured both by direct coupling of a Cy5-labeled SEB mol. and Cy5-anti-SEB antibody binding to immobilized unlabeled SEB. Antibody functionality expts. were conducted using three chemical modified surfaces (highly crosslinked polyacrylamide hydrogels, com. available hydrogels and 2D glass surfaces). Cy3-labeled anti-mouse IgG (capture antibody) was microarrayed onto the hydrogel surfaces and interrogated with the corresponding Cy5-labeled mouse IgG (antigen). Five different concns. of Cy5-labeled mouse IgG were applied to each microarrayed surface and the fluorescence quantified by scanning laser confocal microscopy. Exptl. results showed fluorescence intensities 3-10-fold higher for the 3D films compared to analogous 2D surfaces with attomole level sensitivity measured in direct capture immunoassays. However, 2D surfaces reported equal or greater sensitivity on a per-mol. basis. Reported also are the immobilization efficiencies, inter-and intra-slide variability and detection limits.
CC 9-16 (Biochemical Methods)
IT Crosslinking
Films
Fluorometry
Hydrogels
Immobilization, molecular or cellular
Microarray technology
(3D hydrogel microarrays to measure antigenicity and antibody functionality for biosensor applications)
IT **Proteins**
RL: **ANT (Analyte)**; ANST (Analytical study)
(ligand-binding; 3D hydrogel microarrays to measure antigenicity and antibody functionality for biosensor applications)
IT **9003-05-8**, Polyacrylamide
RL: DEV (Device component use); USES (Uses)
(3D hydrogel microarrays to measure antigenicity and antibody functionality for biosensor applications)
REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Searched by Barb O'Bryen, STIC 2-2518

WO 2004025268 A2 20040325 WO 2003-US29289 20030915
WO 2004025268 A3 20041125
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2002-410834P P 20020913
OTHER SOURCE(S): MARPAT 140:283896
ED Entered STN: 26 Mar 2004
AB A fundamental biosensor for detection of biol. or environmental analytes is provided. The biosensor comprises a selectivity component for recognition of a target mol. and a reporter mol. that is sensitive to changes in the microenvironment. Methods of using the biosensor are also provided, including in vivo and in vitro applications using biosensor mols. that optionally may be attached to a surface.
IC ICM G01N
CC 9-1 (Biochemical Methods)
IT Drug delivery systems
Films
Plates
(as substrate; optical biosensors having target recognition component and reporter sensitive to changes in microenvironment)
IT Environmental analysis
Glass substrates
Immobilization, molecular or cellular
(optical biosensors having target recognition component and reporter sensitive to changes in microenvironment)
IT Amino acids, analysis
Carbohydrates, analysis
Cytokines
Hormones, animal, analysis
Nucleic acids
Peptides, analysis
Proteins
RL: **ANT (Analyte)**; BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(optical biosensors having target recognition component and reporter sensitive to changes in microenvironment)
IT 1303-00-0, Gallium arsenide, uses 1314-61-0, Tantalum oxide 1344-28-1, Alumina, uses 7429-90-5, Aluminum, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-32-6, Titanium, uses 7440-44-0, Carbon, uses 7440-56-4, Germanium, uses 7440-57-5, Gold, uses 7631-86-9, Silica, uses 9002-81-7, Polyoxymethylene 9002-88-4, Polyethylene 9002-98-6 **9003-05-8**, Polyacrylamide 9003-17-2, Polyvinylethylene 9003-53-6, Polystyrene 9011-14-7, Polymethyl methacrylate 9016-00-6, Polydimethylsiloxane 12033-89-5, Silicon nitride, uses 13463-67-7, Titania, uses 14808-60-7, Quartz, uses 24937-79-9, Polyvinylidenedifluoride 25249-16-5 25585-20-0, Polymethacrylimide 25587-79-5, Polypropylethylene 31694-16-3 31900-57-9, Polydimethylsiloxane 59269-51-1, Polyvinylphenol
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(as substrate; optical biosensors having target recognition component and reporter sensitive to changes in microenvironment)

Searched by Barb O'Bryen, STIC 2-2518

Sensors
Square wave voltammetry
(protein and peptide sensors using elec. detection methods)
IT Antibodies and Immunoglobulins
Nucleic acids
Oligonucleotides
Peptides, analysis
Proteins
RL: **ANT (Analyte)**; BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(protein and peptide sensors using elec. detection methods)
IT 9003-53-6 9033-83-4, Poly(phenylene) 25013-01-8, Polypyridine 25067-54-3, Polyfuran 25233-34-5, Polythiophene 30604-81-0, Polypyrrole 51555-21-6, Polycarbazole 82451-55-6, Polyindole 95270-88-5, Polyfluorene
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(**films**, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT 9004-34-6, Cellulose, analysis **9012-36-6**, Agarose
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(gel, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT 109-97-7, Pyrrole
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(neutral matrix, **films**, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT **9003-05-8DP**, Polyacrylamide, reaction with acyloxysuccinimidylstreptavidin 9013-20-1DP, Streptavidin, acylsuccinimide modified, reaction with polyacrylamide
RL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(protein and peptide sensors using elec. detection methods)
IT **9003-05-8** 25322-68-3, Polyethylene glycol
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)

L131 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:252741 CAPLUS
DOCUMENT NUMBER: 140:283896
TITLE: Optical biosensors and methods of use thereof
INVENTOR(S): Waggoner, Alan S.; Armitage, Bruce A.; Brown, William E.
PATENT ASSIGNEE(S): Carnegie Mellon University, USA
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

Searched by Barb O'Bryen, STIC 2-2518

US 6824669 B1 20041130 US 2000-506178 20000217
WO 2001061053 A2 20010823 WO 2001-US5476 20010220
WO 2001061053 A3 20020314
WO 2001061053 C2 20021017
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-506178 A2 20000217
WO 2001-US5476 W 20010220

ED Entered STN: 04 Feb 2005

AB The present invention provides an apparatus and methods for the elec. detection of mol. interactions between a probe mol. and a protein or peptide target mol., but without requiring the use of electrochem. or other reporters to obtain measurable signals. The methods can be used for elec. detection of mol. interactions between probe mols. bound to defined regions of an array and protein or peptide target mols. which are permitted to interact with the probe mols. Streptavidin-modified porous hydrogel microelectrodes were prepared Biotinylated antibodies to Escherichia coli were attached to the streptavidin-modified microelectrodes to make an immunosensor.

IC ICM G01N001-00
ICS G01N017-00
INCL 205792000; 204403060
CC 9-1 (Biochemical Methods)
IT Polymers, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(co-, **films**, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT Polymers, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(conjugated, **films**, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT Polyanilines
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(**films**, with immobilized probe mols., contacting microelectrodes; protein and peptide sensors using elec. detection methods)
IT Amperometry
Biosensors
Capillary tubes
Cyclic voltammetry
Electric conductivity
Electric impedance
Electrochemical cells
Electrolytes
Glass substrates
Immobilization, molecular or cellular
Microelectrodes
Molecular association
Potentiometry

Searched by Barb O'Bryen, STIC 2-2518

32)

L131 ANSWER 13 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1985-12461 BIOTECHDS
TITLE: Location of DNA segments in a gel; performed by directing UV light through the gel onto photographic **film**
PATENT ASSIGNEE: Univ.Calif.
PATENT INFO: US 4539297 3 Sep 1985
APPLICATION INFO: US 1983-533154 15 Sep 1983
PRIORITY INFO: US 1983-533154 15 Sep 1983
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 1985-236124 [38]
ABSTRACT: A process and **apparatus** are described for use in electrophoretic separation of several segments of a DNA molecule and comprises locating the DNA segments on a **polyacrylamide** gel (33) by directing UV light of wavelength 240-400 mm from a light source (42) through the gel onto a photographic **film** carried on a plate (36). The zones on the gel adsorb 1 or more discrete wavelengths of UV light and the **film** is exposed by incident UV light so that a photographic image of the **nucleic acid** zones is created on the **film.** The **film** is then developed and the developed **film** placed on the plate and aligned with the gel so that the images thereon register with the DNA segments in the gel. Door (28) of the housing (16) can then be opened to enable the operator to view the images of the DNA segment and cut selected segments out of the gel. This system presents no health hazard to the operator and is economical. (6pp)
CLASSIFICATION: A MICROBIOLOGY; A1 Genetics; C CHEMISTRY; C1 Analysis and Structure
CONTROLLED TERMS: ELECTROPHORETIC DNA SEGMENT LOCALIZATION **APPARATUS**, **IMMOBILIZED** DNA, PHOTOGRAPHIC **FILM**, UV LIGHT ETC., ELECTROPHORESIS

L131 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:98641 CAPLUS
DOCUMENT NUMBER: 142:193892
TITLE: Protein and peptide sensors using electrical detection methods
INVENTOR(S): Sawyer, Jaymie Robin; Li, Changming; Choong, Vi-en; Maracas, George; Zhang, Peiming
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp., Cont.-in-part of U.S. Ser. No. 506,178.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005023155	A1	20050203	US 2003-203874	20030609

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recovered ssDNA library was 5'-labeled with T4 polynucleotide kinase (PNK) and purified on a 14% **polyacrylamide** gel. The position of the radiolabeled DNA was determined by 1.5 minute exposure of Kodak X-OMAT AR **film.** The radiolabeled band was excised and recovered. These libraries were then subjected to the photocrosslinking reaction with recombinant human bFGF(155). Initially, a selection round employing 50 nM DNA, 25 nM bFGF(155) and 250 pulses of 308 nm light from an excimer laser was carried out. In each subsequent round, bFGF(155) concentration and the number of laser pulses were restricted in the stepwise fashion through the sixth round of selection which was completed with 50 nM DNA, 1.5 nM bFGF(155) and 30 laser pulses. For each round, 200 muL radiolabeled 2x DNA was combined with 200 mul of 2X bFGF(155) and incubated. This mixture was placed in a 1.5 mL semi-micron methacrylate cuvette and irradiated at 37degreesC for the number of laser pulses indicated above. Partitioning of sequences capable of photocrosslinking with bFGF(155) from those incapable of such crosslinking was accomplished by **polyacrylamide** gel electrophoresis (PAGE).
Specifically, the crosslink reaction volume was reduced by centrifugation. Crosslinked oligonucleotide/**protein** adducts, non crosslinked ssDNA, unreacted bFGF(155), and photodamaged ssDNA were all recovered from the filter by washing with the formamide gel loading buffer and subsequently partitioned via 12% PAGE with 7 M urea. As bFGF(155) and 61-nt ssDNA sequences were both 18 kDa, crosslinked DNA **migrated** in the gel about half as fast as free DNA. The crosslinked material was excised from the gel and then crushed to slurry in 400 muL of proteinase K buffer. The **protein** portion of each oligonucleotide/**protein** crosslinked adduct was reduced by proteinase K digestion. This yielded crosslinking oligonucleotide templates suitable for amplification by PCR. The digested adduct was then extracted with phenol/chloroform to remove **enzyme** and amino acids from the oligonucleotides and concentrated by NaOAc/EtOH precipitation to complete one round of PhotoSELEX. Prior to initiation of each subsequent round of PhotoSELEX, a pilot PCR using 5'-32P-radiolabeled primer and the 1:1 mixture of Taq and Pwo polymerase **enzymes** was performed to identify the number of cycles which would give maximum PCR amplification. Half of the recovered oligonucleotide sample from the previous round was then used for PCR amplification to generate the new library. Monitoring PhotoSELEX evolution was accomplished by measuring photocrosslink yield and binding affinity screening. Upon convergence to a library of less than 100 different sequences after six rounds of selection, the evolved ligands were cloned and sequenced to yield 95 oligonucleotides. Based upon results of screening for affinity and crosslink yield two ligands, designated as ligand 06.15 and 06.50 were selected for evaluation as diagnostics for bFGF(155). (105 pages)

CLASSIFICATION: GENETIC TECHNIQUES and APPLICATIONS, Gene Expression Techniques and Analysis; DIAGNOSTICS, Molecular Diagnostics

CONTROLLED TERMS: RECOMBINANT PHOTOCROSSLINKING BASIC FIBROBLAST GROWTH FACTOR LIGAND IDENTIFICATION, PHOTOSELEX, **IMMOBILIZED** PHOTOAPTAMER, **MASS SPECTROSCOPY,** POLYMERASE CHAIN REACTION APPL. DIAGNOSIS, DRUG SCREENING **PROTEIN** DNA AMPLIFICATION HYBRIDIZATION SELEX (21,

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DNA. The target molecule which is detected may be a **protein** that is not known to bind **nucleic acids** as part of its biological function, is a small molecule, controlled substance, metabolite or biological substance. The method involves exposing the sample which may contain the target molecule to a non-naturally occurring photoaptamer of the target molecule, under conditions where a target molecule:photoaptamer complex is formed if the target molecule is present, where the complex is not due to Watson/Crick base pairing, irradiating the complexes, where the target molecule and photoaptamer photocrosslink, and determining whether the target molecule:photoaptamer crosslink is formed, thus detecting the presence or absence of the target molecule in the sample. Optionally, the method involves identifying the photoaptamer from a candidate mixture of photoaptamers, the photoaptamer being a ligand of the target molecule and is identified by (M1) prior to carrying out all the above mentioned steps, where the candidate mixture (i) is prepared by synthesis from a template comprising a region of conserved sequence of a region of randomized and/or biased sequence, and (ii) comprises **nucleic acids** each comprising a region of conserved sequence and a region of randomized sequence. The detection is achieved by PCR amplification of the NL. (I) is also useful in qualitative or quantitative measurement of amount of target molecule in a sample. The method involves exposing the sample to a photoaptamer of the target molecule under conditions where a target molecule:photoaptamer complex is formed; irradiating the complex, where the target molecule and photoaptamer photocrosslink; determining whether the target molecule:photocrosslink is formed; and measuring the amount of the target molecule in the sample by quantitatively detecting the photoaptamer. Optionally, the method involves identifying the photoaptamer from a candidate mixture of photoaptamers, the photoaptamer being a ligand of the target molecule and is identified by (M1), prior to carrying out all the above mentioned steps (all claimed).

ADVANTAGE - Use of photoaptamer as a capture molecule in a diagnostic assay adds an extra dimension of specificity and supplants the need for sandwich assays.

EXAMPLE - Selection of photo-crosslinking ligand to basic fibroblast growth factor (bFGF) by photoSELEX process. Experimental details for single-stranded (ss) DNA systematic evolution of ligands by exponential enrichment (SELEX) are described in Schneider et al., (1995) Biochemistry 34:9599-9610. PCR amplification of a randomized 61mer ssDNA library in which 5-BrdUTP (deoxynucleoside triphosphate 5-bromo-2'-deoxyuridine-5'-deoxyuridine-5'-triphosphate) was substituted for thymidine 5'-triphosphate (TTP) was initially performed to generate sequences incorporating the chromophore. Subsequent amplification of ligands identified as photocrosslinkers in each photoSELEX was carried out. To purify and isolate the sense ssDNA, the double-stranded (ds)DNA was heated and partitioned on a 12% **polyacrylamide** gel incorporating 7 M urea. Sense ssDNA was located on the **polyacrylamide** gel by UV shadowing and was subsequently excised and recovered by elution and NaOAc/ethanol precipitation. To facilitate identification of photocrosslinking ligands, 2 pmol of each

candidate mixture contains one or more photoreactive groups, by photoSELEX method. The method involves (a) contacting a candidate mixture of **nucleic acids** with a target, where **nucleic acids** having an increased affinity to the target relative to the candidate mixture may be partitioned from the remainder of the candidate mixture; (b) partitioning the increased affinity **nucleic acids** from the remainder of the candidate mixture; (c) amplifying the increased affinity **nucleic acids** to yield a ligand enriched mixture of **nucleic acids** having increased affinity to the target; (d) contacting the increased affinity NL to the target under conditions where a target molecule:NL complex is formed; (e) irradiating the complex, where the target molecule and NL photocrosslink; (f) partitioning the photocrosslinked **nucleic acid**-target complexes from the remainder of the mixture; and (g) identifying a NL that photocrosslinks to the target.

INDEPENDENT CLAIMS are also included for the following: (1) a diagnostic system (I) comprising a photoaptamer as a capture molecule; (2) a NL to basic fibroblast growth factor (bFGF) identified according to (M1); (3) a purified and isolated non-naturally occurring NL (II) to bFGF; and (4) determining a **protein**'s crosslinking amino acid by sequencing a crosslinked NL-amino acid complex using **mass spectrometry.**

WIDER DISCLOSURE - The following are also disclosed: (1) **nucleic acid** ligands to bFGF(155) that are substantially homologous to any of (II); and (2) **nucleic acid** ligands to bFGF(155) that have substantially the same structural form as (II) and which have the substantial stability to bind bFGF(155).

BIOTECHNOLOGY - Preferred Diagnostic System: The photoaptamer is **immobilized** on a **solid support.** Preferred Method: The method preferably involves identifying NL that photocrosslink to basic fibroblast growth factor (bFGF) by (a) contacting the candidate mixture of **nucleic acids** (each of which contains one or more photoreactive groups e.g., 5-bromouracil) with bFGF, where nucleic aids having an increased affinity to bFGF relative to the candidate mixture form **nucleic acid-protein** complexes with the bFGF; (b) irradiating the complexes, where the **nucleic acid** and bFGF photocrosslink; (c) partitioning the photocrosslinked **nucleic acid**-bFGF complexes from the candidate mixture; and (d) identifying a NL that photocrosslinked to the bFGF. The method preferably involves repeating steps (a), (b) and (c), and amplifying the NL that photocrosslinked to the bFGF, after the step (c). The candidate mixture of **nucleic acids** comprise two-position modified pyrimidines. Preferred Ligand: (II) comprises any one of the 95 oligonucleotide sequences having fully defined sequence of 61 amino acids as given in the specification.

USE - Identifying NL that photocrosslink to target from candidate mixture of **nucleic acids.** (I) is useful for detecting the presence or absence of a target molecule in a sample which may contain the target molecule by covalent capture of the target molecule with the photoaptamer which is a single-stranded NL, preferably radiolabeled RNA or

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this fraction eluted at approximately 21 minutes and 31% acetonitrile. This disintegrin containing fraction was collected and lyophilized. One mg of the lyophilized, disintegrin containing fifth fraction was dissolved in 500 muL of 0.1% trifluoroacetic acid solution and applied to a C18 HPLC column. Peptides were then eluted from the column with a linear 20-70% acetonitrile in H2O gradient run which ran for 70 minutes. Peptide elution was followed by monitoring A(206nm). The first major peak eluted at approximately 23 minutes and contained a disintegrin activity which inhibited alpha1beta1 integrin-mediated adhesion of alpha1K562 cells to **immobilized** collagen IV. Sodium dodecyl sulfate **polyacrylamide** gel electrophoresis (SDS-PAGE) and **mass spectrometry** confirmed that only one major peptide species was present in this fraction. **Mass spectrometry** revealed the eluted obtustatin peptide had a molecular mass of 4395 Da. Automated Edman degradation revealed that the obtustatin peptide had a primary amino acid sequence of: CTTGPCCRQCKLPAGTTCWKTSLTSHYCTGKSCDCPLYPG. The yield after the primary and secondary purifications was approximately 12 mg substantially purified obtustatin per 1 g crude Vipera lebetina obtusa venom. (66 pages)

CLASSIFICATION: PHARMACEUTICALS, Antibodies; BIOMANUFACTURING and BIOCATALYSIS, Animal/Plant Cell Culture; DISEASE, Cancer; DISEASE, Cardiovascular; DISEASE, Endocrine/Metabolic System; DISEASE, Autoimmune Disease

CONTROLLED TERMS: OBTUSTATIN, ALPHA-1, BETA-1 INTEGRIN-INHIBITING COMPOUND SYNTH., MONOCLONAL ANTIBODY, HYBRIDOMA, APPL. DIABETES MELLITUS, MULTIPLE SCLEROSIS, RHEUMATOID ARTHRITIS, ULCERATIVE COLITIS, ARTERIOSCLEROSIS, CANCER THERAPY CELL CULTURE 6P21.3 TUMOR **PROTEIN** SEQUENCE (21, 46)

L131 ANSWER 12 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-09653 BIOTECHDS
TITLE: Identifying **nucleic acid** ligands photocrosslinking to target from **nucleic acids** containing photoreactive groups, by modification of systematic evolution of ligands by exponential enrichment method, termed photoSELEX; recombinant basic fibroblast growth factor ligand screening for use in diagnosis
AUTHOR: GOLD L; SMITH J D; KOCH T; GOLDEN M
PATENT ASSIGNEE: SOMALOGIC INC
PATENT INFO: WO 2002006510 24 Jan 2002
APPLICATION INFO: WO 2000-US22561 19 Jul 2000
PRIORITY INFO: US 2000-619213 19 Jul 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-179798 [23]
ABSTRACT: DERWENT ABSTRACT:
NOVELTY - Identifying (M1) **nucleic acid** ligands (NL) that photocrosslink to target from candidate mixture of **nucleic acids** which contain one or more photoreactive groups, by a modification of the systematic evolution of ligands by exponential enrichment (SELEX) method, termed photoSELEX.

DETAILED DESCRIPTION - Identifying NL that photocrosslink to target from a candidate mixture of **nucleic acids**, where each member of the

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of alpha1beta1 integrin to its adhesive ligand by inhibiting binding of alpha1beta1 integrin with their ligands. (I) is thus useful for treating insulin dependent diabetes mellitus, multiple sclerosis, rheumatoid arthritis, ulcerative colitis, arteriosclerosis or cancer. The biological condition is selected from thrombic occlusion formation, blood clot formation, wound healing, allergy, organ rejection, asthma, neovascularization, restenosis of arteries, or angiogenesis. Preferably, (I) is useful for treating angiogenesis that is associated with metastasis, corneal graft rejection, ocular neovascularization, retinal neovascularization, diabetic retinopathy, retrolental fibroplasia, neovascular glaucoma, gastric ulcer, infantile hemangiomas, angiofibroma of the nasopharynx, avascular necrosis of bone or endometriosis. (I) is also useful for detecting alpha1beta1 integrin in a sample which involves contacting the sample with (I) which is modified with a label such that binding of the labeled (I) to any alpha1beta1 integrin present in the sample takes place; and detecting the labeled (I) bound to alpha1beta1 integrin. (I) can be labeled with compounds that are radioactive; emit fluorescent light; are detectable by visible light, infrared light or UV light; detectable by exposure to photographic **film**, X-ray **film**; detectable by gamma camera; and compounds that are detectable by scintillation counters. Preferably, the label comprises a compound that emits fluorescent light, e.g., fluorescein isothiocyanate. The sample comprising several unknown peptides or cells, is **immobilized** on a **solid support.**

(I) is also useful for isolating alpha1beta1 integrin from a sample which involves contacting the sample with (I) modified with a selectable label, such that the modified (I) binds to any alpha1beta1 integrin present in the sample; and separating the selectable label-modified (I) bound to alpha1beta1 integrin from the sample. Preferably, (I) is modified with a selectable label such as fluorescein isothiocyanate, and the alpha1beta1 integrin expressing cells are isolated by flow-cytometry (all claimed).

ADMINISTRATION - Administration is oral, rectal, intracisternal, intravaginal, intraperitoneal, local, buccal or as a nasal sparay. Dosage is 0.001 mg/kg-100 mg/kg body weight, preferably 0.05-5 mg/kg body weight.

EXAMPLE - Lyophilized Vipera lebetina obtusa venom was dissolved in 0.1% trifluoroacetic acid to a final concentration of 30 mg/ml. The solution was then centrifuged for 5 minutes at 5000 rpm to remove insoluble matter. The supernatant was next applied to a C18 high performance liquid chromatography (HPLC) column and the pellet was discarded. Peptides were eluted from the column with a linear 0-80% acetonitrile in H2O gradient run which ran for 45 minutes. Peptide elution was followed by monitoring A(206nm) and 19 fractions were collected. Each fraction was lyophilized and resuspended in H2O. **Protein** concentration in each resuspended fraction was measured using the bicinchoninic acid (BCA) assay. Five mug of **protein** from each fraction was then assayed for the ability to disrupt alpha1beta1 integrin-mediated adhesion of alpha1K562 cells to **immobilized** collagen IV. The fifth fraction contained a disintegrin activity which inhibited alpha1beta1 integrin-mediated adhesion of alpha1I562 cells to **immobilized** collagen IV. The disintegrin activity in

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Xaa-Xaa-Xaa-Cys-Xaa-Xaa-Xaa-S-L-Xaa-Xaa- Xaa-Xaa-Cys-Xaa-Xaa-Xaa-Xaa-X3-Xaa-Cys-X4, where X3 = any amino acid, preferably, Cys, each Xaa is independently any amino acid X4 = is 0, 1-5 amino acids, where the compound optionally comprises an amino terminal and/or a carboxy terminal protecting group. Preferred Antibody: (II) is a monoclonal or polyclonal antibody.

ACTIVITY - Antidiabetic; neuroprotective; antirheumatic; antiarthritic; antiulcer; antiarteriosclerotic; cytostatic; thrombolytic; vulnerary; antiallergic; immunosuppressive; antiasthmatic; vasotropic; gynecological. No supporting data is given.

MECHANISM OF ACTION - Angiogenesis inhibitor; inhibitor of binding of alpha1beta1 integrin with their adhesive ligands; cellular adhesion to collagen IV inhibitor. The effect of obtustatin, EP-obtustatin and fragments of obtustatin on the adhesion of alpha1K562 cells to collagen IV was tested. alpha1K562 cells express alpha1beta1 integrin which binds collagen IV. Ethylpyridylated obtustatin (EP-obtustatin) was a form of full-length obtustatin in which the S-S bonds between cysteine residues have been reduced and exposed thiol groups have been alkylated by reaction with 4-vinylpyridine. Peptides with the primary amino acid sequences of CWKTSLTSHYC, TSLTS and CKLKPAGTTC were generated with standard synthetic techniques. These peptides were based on the primary sequence of full-length obtustatin. The ability of EP-obtustatin and the synthetic peptides to inhibit activity of the alpha1beta1 integrin was then assayed. Collagen IV (0.2 microg/well) in 0.02 M acetic acid was **immobilized** by incubation overnight at 4degreesC on a 96-well plate. Plates were then blocked with 1% (w/v) bovine serum albumin (BSA) in Hank's Balanced Salt Solution (HBSS) containing 3 mM Mg2+ at room temperature. alpha1K562 cells were labeled by incubation with 12.5 microM 5-chloromethylfluorescein diacetete (CMFDA) in HBSS for 15 minutes at 37degreesC. CMFDA labeled alpha1K562 cells were then pelleted, washed and resuspended in HBSS buffer containing 3 mM Mg2+ ad 1% BSA. 1x105 CMFDA labeled cells were then added to each well in the presence or absence of full-length obtustatin, EP-obtustatin, or the synthetic peptides and incubated at 37degreesC for 30 minutes. The plates were washed three times with HBSS containing 3 mM Mg2+ and 1% (w/v) BSA to remove unbound cells. Bound cells were lysed using 0.5% (v/v) Triton X-100 in H2O. Fluorescent CMFDA released by lysis of adherent cells i a given well was read. Full-length, native obtustatin had an IC50 value of 30 microM. The synthetic peptides limited alpha1beta1 integrin-mediated adhesion of alpha1K562 cells to collagen IV to lesser extent. The peptide of sequence CWKTSLTSHYC had an IC50 value of 600 microM; the peptide of sequence TSLTS had an IC50 value of 3.5 mM; and the peptide of sequence CKLKPAGTTC did not appreciably inhibit alpha1beta1 integrin-mediated adhesion of alpha1K562 cells to collagen IV.

USE - (I) is useful for inhibiting the binding of alpha1beta1 integrin to its adhesive ligand, which involves contacting (I) with a sample comprising alpha1beta1 integrin not bound to a cell membrane or comprising cells expressing alpha1beta1 integrin. (I) is also useful for treating diseases or biological conditions associated with the binding

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Blood and Hematopoietic Cells; DISEASE, Kidney; DISEASE, Other Diseases

CONTROLLED TERMS: TARGET RNA BINDING COMPOUND IDENTIFICATION, STRUCT. DET., REPORTER GENE EXPRESSION, HIGH THROUGHPUT SCREENING, EXPRESSION VECTOR, COMBINATORIAL LIBRARY, APPL. DRUG SCREENING, PREMATURE TRANSLATION TERMINATION, NONSENSE-MEDIATED MRNA DECAY MODULATION, CYSTIC FIBROSIS, MUSCULAR DYSTROPHY, HYPERCHOLESTEROLEMIA, LUNG, MAMMA, COLON, PANCREATIC, NON-HODGKIN LYMPHOMA, OVARY, ESOPHAGEAL, COLORECTAL CARCINOMA, NEUROFIBROMATOSIS, RETINOBLASTOMA, WILM TUMOR, RETINITIS PIGMENTOSA, COLLAGEN DISORDER, CIRRHOSIS, TAY-SACHS DISEASE, BLOOD DISORDER, HEMOPHILIA, KIDNEY STONES, ATAXIA-TELANGIECTASIA, LYSOSOMAL STORAGE DISEASE, TUBEROUS SCLEROSIS THERAPY DNA LIBRARY CYTOSTATIC ANTIARTERIOSCLEROTIC ANTIINFLAMMATORY HEPATOTROPIC HEMOSTATIC LITHOLYTIC NEPHROTROPIC (23, 19)

L131 ANSWER 11 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

ACCESSION NUMBER: 2002-16376 BIOTECHDS

TITLE: Novel alpha1 beta1 integrin-inhibiting compound (obtustatin), useful for inhibiting binding of alpha1 beta1 integrin to its adhesive ligand, and for treating cancer, asthma, gastric ulcer, allergy, and multiple sclerosis;
monoclonal antibody and hybridoma for use in diabetes mellitus, multiple sclerosis, rheumatoid arthritis, ulcerative colitis, arteriosclerosis and cancer therapy

AUTHOR: MARCINKIEWICZ C

PATENT ASSIGNEE: UNIV TEMPLE

PATENT INFO: WO 2002022571 21 Mar 2002

APPLICATION INFO: WO 2000-US28522 11 Sep 2000

PRIORITY INFO: US 2000-231591 11 Sep 2000

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2002-454383 [48]

ABSTRACT: DERWENT ABSTRACT:

NOVELTY - A alpha1beta1 integrin-inhibiting compound (I) that comprises a fully defined short disintegrin obtustatin peptide sequence of 41 amino acids as given in specification, or its biologically active fragment, homolog or analog, is new.

DETAILED DESCRIPTION - (I) has a sequence of CTTGPCCRQCKLKPAGTTCWKTSLTSHYCTGKSCDCPLYPG. INDEPENDENT CLAIMS are also included for the following: (1) a composition comprising (I) and a carrier; and (2) an antibody (II) which specifically binds (I).

WIDER DISCLOSURE - Also disclosed is a hybridoma that produces a monoclonal antibody which specifically binds with (I).

BIOTECHNOLOGY - Preferred Compound: (I) preferably is a biologically active peptide which comprises a sequence of X1-Ser-Leu-X2, where X1 = 0-25 amino acids X2 = 0-20 amino acids and the compound optionally comprises an amino terminal and/or carboxy terminal protecting group X1 is (i) zero amino acids, or (ii) the segment CTTGPCCRQCKLKPAGTTCWKT or its amino-terminal truncation fragment containing at least one amino acid; and X2 is (i) zero amino acids, or (ii) the segment TSHTCTGKSCDCTLYYTG or its carboxy-terminal truncation fragment containing at least one amino acid. Preferably, X1 is Lys-Thr or Thr. (I) optionally comprises a sequence of Cys-Xaa-Xaa-Xaa-Xaa-Cys-Cys-Xaa-Xaa-Cys- Xaa-Xaa-Xaa-Xaa-Xaa-

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identified by (M2) is useful for treating cystic fibrosis, muscular dystrophy, hypercholesterolemia, lung cancer, breast cancer, colon cancer, pancreatic cancer, non-Hodgkin's lymphoma, ovarian cancer, esophageal cancer, colorectal carcinomas, neurofibromatosis, retinoblastoma, Wilm's tumor, retinitis pigmentosa, collagen disorders, cirrhosis, Tay-Sachs disease, blood disorders such as hemophilia, kidney stones, ataxia-telangiectasia, lysosomal storage diseases, and tuberous sclerosis.

ADMINISTRATION - The compound is administered through oral (dosage: 0.5-5 mg/kg body weight/day), intravenous (dosage: 1-10 mg/kg body weight/day), intranasal (dosage: 0.01 pg-1 mg/kg body weight/day), topical (dosage: 0.001-1 mg/kg body weight/day), or intradermal, epidural or intravaginal route (dosage: 0.001-200 mg/kg body weight/day).

ADVANTAGE - (M1) enables a simple, sensitive assay for high-throughput screening of libraries of compounds to identify pharmaceutical leads.

EXAMPLE - Oligonucleotide such as a 5' fluorescein labeled oligonucleotide corresponding to the 16S ribosomal RNA (rRNA)A site having a sequence of 5'-GGCGUCACACCUUCGGGUGAAGUCGCC-3' or a 5' fluorescein labeled oligonucleotide corresponding to the HIV-1 TAR element TAR RNA having a sequence of 5'-GGCAGAUCUGAGCCUGGGAGCUCUCUGCC-3' was 3' labeled with 5'-32P cytidine 3', 5'-bis(phosphate) and T4 RNA ligase in 10% dimethyl sulfoxide (DMSO). The labeled oligonucleotides were purified using G-25 Sephadex columns. In 20 microl reaction volumes 50 pmoles of 32P cytidine-labeled oligonucleotide and either gentamicin sulfate or the short trans-activator **protein** (Tat) in TK or TKM buffer were heated at 90 degreesC for 2 minutes and allowed to cool to room temperature (approximately 24 degreesC) over 2 hours. Then, 10 microl of 30% glycerol was added to each reaction tube and the entire sample was loaded onto a TBE non-denaturing **polyacrylamide** gel and electrophoresed at 4 degreesC. The gel was exposed to an intensifying screen and radioactivity was quantitated using a phosporimager. A gel retardation assay was performed using the Tat peptide and the TAR RNA oligonucleotide. In the presence of the Tat peptide, a clear shift was visible when the products were separated on a 12% non-denaturing **polyacrylamide** gel. In the reaction that lacks peptide, only the free RNA was visible. Thus, a dye-labeled target RNA bound to small molecular weight compounds, was identified. Ribosomes prepared from HeLa cells were incubated with the small molecules (at a concentration of 100 microM), followed by treatment with chemical modifying agents (dimethyl sulfate (DMS) and kethoxal (KE)). Following chemical modification, rRNA was phenol-chloroform extracted, ethanol precipitated, analyzed in primer extension reactions using end-labeled oligonucleotides hybridizing to different regions of the rRNAs and resolved on 6% **polyacrylamide** gels. The result indicated an alteration in the accessibility of the chemical modifying agents to specific nucleotides in the 28S rRNA by the small molecules. (242 pages)

CLASSIFICATION: BIOINFORMATICS and ANALYSIS, High Throughput Screening; GENETIC TECHNIQUES and APPLICATIONS, Gene Expression Techniques and Analysis; DISEASE, Respiratory System; DISEASE, Neuromuscular System; DISEASE, Cancer; DISEASE,

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cell-free translation mixture and a **nucleic acid** sequence comprising a regulatory element operably linked to a reporter gene, or with a cell containing a **nucleic acid** sequence comprising a regulatory element operably linked to a reporter gene, where the reporter gene contains a premature stop codon and detecting the expression of the reporter gene, where a compound that modulates premature translation termination or nonsense-mediated mRNA decay is identified if the expression of the reporter gene in the presence of the compound is altered relative to the expression of the reporter gene in the absence of the compound or the presence of a negative control.

WIDER DISCLOSURE - The following are also disclosed as new: (1) an automated electrophoretic system comprising a capillary cartridge having several capillary tubes used for high-throughput screening of compounds bound to target RNA; and (2) an expression vector comprising reporter gene.

BIOTECHNOLOGY - Preferred Method: (M1), (M2) or (M3) further involves determining the structure of the compound. The structure of the compound is determined by **mass spectrometry**, nuclear magnetic resonance (NMR), X-ray crystallography, Edman degradation or vibration spectroscopy. Each compound in the library is attached to a **solid support** such as silica gel, a resin, a derivative of plastic **film**, a glass bead, cotton, a plastic bead, a polystyrene bead, an aluminum gel, a glass slide or a polysaccharide. The library of compounds is attached to a chip. The detectably labeled RNA is labeled with a fluorescent dye, phosphorescent dye, ultraviolet dye, infrared dye, visible dye, radiolabel, **enzyme**, spectroscopic calorimetric label, affinity tag or nanoparticle. The compound is a combinatorial library of compounds comprising peptoides, random bio-oligomers, diversomers such as hydantoins, benzodiazepines and dipeptides, vinylogous polypeptides, nonpeptidal peptidomimetics, oligocarbamates, peptidyl phosphonates, peptide **nucleic acid** libraries, antibody libraries, carbohydrate libraries, or small organic molecule libraries. The small organic molecule libraries are libraries of benzodiazepines, isoprenoids, thiazolidinones, metathiazanones, pyrrolidines, morpholino compounds, or diazepindiones. The detectably labeled target RNA: compound complex is detected by electrophoresis, fluorescence spectroscopy, surface plasmon resonance, **mass spectrometry**, scintillation, proximity assay, structure activity relationships (SAR) by NMR spectroscopy, size exclusion chromatography, affinity chromatography or nanoparticle aggregation. The premature stop codon is UAG, UGA or UAA.

ACTIVITY - Cytostatic; Antilipemic; Ophthalmological; Antiinflammatory; Hepatotropic; Hemostatic; Litholytic; Nephrotropic.

MECHANISM OF ACTION - Modulator of premature translation termination and/or nonsense-mediated messenger ribonucleic acid decay (claimed). No supporting data is given.

USE - (M1) is useful for identifying a compound that binds to a target RNA. (M2) is useful for identifying a compound that modulates premature translation termination or nonsense-mediated mRNA decay (claimed). The compound

Searched by Barb O'Bryen, STIC 2-2518

CONTROLLED TERMS: CYSTEINE, FERROCENYL, BENZOQUINONE, ANTHRAQUINONE, P-AMINOPHENOL GROUP, DYE, INDOPHENOL, THIAZINE, PHENAZINE, FLUOROPHORE 6-FAM, HEX, FLUORESCEIN, TAMRA, TEXAS RED, A FLUORESCENT QUENCHER-LABELED DNA PROBE, **IMMOBILIZATION**, DELECTRICAL SIGNAL, **POLYACRYLAMIDE**, POLY(VINYL PYRROLIDONE) ELECTRODE, THIN-**FILM** GOLD ELECTRODE, APPL. REAL-TIME DNA AMPLIFICATION DNA QUANTIFICATION FLUORESCENCE HYBRIDIZATION (24, 08)

L131 ANSWER 10 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-09287 BIOTECHDS
TITLE: Identifying compound binding to target RNA, involves contacting labeled target RNA molecule with library of compounds for forming complex of labeled target RNA and compound, detecting formation of complex; target RNA binding compound identification and high throughput screening for use in drug screening
AUTHOR: WELCH E M; ALMSTEAD N G; RANDO R F; PELLEGRINI M C
PATENT ASSIGNEE: PTC THERAPEUTICS INC
PATENT INFO: WO 2004010106 29 Jan 2004
APPLICATION INFO: WO 2003-US23075 24 Jul 2003
PRIORITY INFO: US 2002-398344 24 Jul 2002; US 2002-398332 24 Jul 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-180314 [17]
ABSTRACT: DERWENT ABSTRACT:
NOVELTY - Identifying (M1) compound that binds to target RNA, involves contacting detectably labeled target RNA molecule with library of compounds or with a material of library of compounds under conditions that permit formation of detectably labeled target RNA: compound complex, where target RNA is region of 28S ribosomal RNA (rRNA) or contains premature stop codon, and detecting formation of detectably labeled target RNA: compound complex.

DETAILED DESCRIPTION - Identifying (M1) a compound that binds to a target RNA, involves contacting a detectably labeled target RNA molecule with a library of compounds or with a material of library of compounds under conditions that permit direct binding of the labeled target RNA to a material of the library of compounds and the formation of the detectably labeled target RNA: compound complex, where the target RNA is a region of 28S ribosomal RNA (rRNA) or contains a premature stop codon, and detecting the formation of a detectably labeled target RNA: compound complex.
INDEPENDENT CLAIMS are also included for: (1) identifying (M2) a compound to test for its ability to modulate premature translation termination or nonsense-mediated mRNA decay, involves carrying out the contacting step of (M1) and detecting a detectably labeled target RNA: compound complex formed in the above mentioned process, such that if a target RNA: compound complex is detected then the compound identified is tested for its ability to modulate premature translation of nonsense-mediated mRNA decay; and (2) identifying (M3) a compound that modulates translation termination or nonsense-mediated mRNA decay, involves carrying out the contacting step of (M1), detecting a detectably labeled target RNA: compound complex formed in the above mentioned process, such that if a target RNA: compound complex is detected, then contacting the compound with a

AUTHOR: BARTEN R; KOSAK H; KUHLMEIER D; HASSMANN J; HAVRAN L; SCHUELEIN J; KOEBLER M
PATENT ASSIGNEE: NOVEMBER GES MOLEKULARE MED AG
PATENT INFO: WO 2004111269 23 Dec 2004
APPLICATION INFO: WO 2004-EP6382 14 Jun 2004
PRIORITY INFO: DE 2003-1027756 18 Jun 2003; DE 2003-1027756 18 Jun 2003
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2005-074840 [08]
ABSTRACT: DERWENT ABSTRACT:
NOVELTY - Real-time electrochemical quantification of a **nucleic acid** (10) in an amplification reaction.

DETAILED DESCRIPTION - Real-time electrochemical quantification of a **nucleic acid** (10) in an amplification reaction where at least one hybridization probe (18), specific for (10) or its complementary strand (8) is present, and hybridization is prevented by enzymatic degradation of (18) if the **nucleic acid** being detected is present during amplification, and this preventative effect is detected electrochemically. (18) carries at least one electrochemically detectable marker (20) and an electrochemical reaction is detected directly from an electrical signal at an electrode (30), where access of intact (18) to (30) is prevented, but access of the decomposition products of (18) is possible.

BIOTECHNOLOGY - Preferred Process: Amplification is by PCR and enzymatic degradation is by a nuclease, preferably a DNA polymerase with exonuclease activity. The enzymatic degradation products detected are nucleotides or oligonucleotides with fewer than 10, especially 5, bases, or the released (20) itself, especially where (20) is a redox active substance. Access of (18) to the electrode is inhibited by a membrane or electrode coating that is permeable to probe degradation products; alternatively, (18) is **immobilized** either at a site remote from the electrode or on a particle, particularly where the membrane is bonded to the electrode. Preferably the electrode is contacted with the solution in which amplification has occurred only during the detection step and is performed at a particular temperature. A measurement is preferably taken at least once during each round of the amplification process.

USE - Real-time quantification of **nucleic acid** during amplification reactions.

ADVANTAGE - Electrochemical quantification requires less expensive measuring **apparatus** than conventional fluorescent methods (especially no optical components are needed) and the probes used are of simple construction, requiring only a single marker.

EXAMPLE - A 23-base oligomer was labeled at its 5'-end with ferrocene carboxylic acid (X) then added at 50 muM to a test solution and differential pulse voltammetry traces recorded at (a) a thin-**film** gold electrode (200 nm sputtered on a polypropylene **film**) or (b) a similar electrode coated with PVP K90. The maximum current in (a) was 1.1 muA for the probe and 0.8 muA for 50 muM free (X) but in (b) it was below 0.1 muA (probe) and 0.4 muA for free (X).(34 pages)

CLASSIFICATION: GENETIC TECHNIQUES and APPLICATIONS, Gene Expression Techniques and Analysis

Searched by Barb O'Bryen, STIC 2-2518

that incorporates water-permeable polymer and indicia and is not bonded to the solid surface, while neither water-permeable polymer nor indicia imposes dimensional restriction to the gel, so as to form electrophoresis gel marked with detectable indicia. INDEPENDENT CLAIMS are included for the following: (1) an electrophoresis gel, which has indicia incorporated and **immobilized** in a gel in a manner that does not permit **migration** of indicia within the gel when an electric field is imposed across the gel, and does not restrict expansion or contraction of the gel; (2) a component for applying indicia to an electrophoresis gel, where the component comprises a solid flexible sheet having a coating of a water-permeable polymer capable of receiving ink on one side, and ink that is capable of being retained by the polymer, and the polymer is not bonded to the sheet; and (3) a gel marking component consisting of an ink composition (A) and a writing implement, where the ink composition contains a pigment dispersed in a solution consisting of water-soluble polymer in a solvent, and the writing implement is capable of retaining the ink composition, and depositing the ink composition on a solid surface upon contact.

USE - For forming electrophoresis gel (claimed) used in gel electrophoresis which is analytical procedure in biotechnology for separating both **proteins** and **nucleic acids** from complex samples.

ADVANTAGE - The electrophoresis gel with indicia having favorable shelf life is effectively formed.

EXAMPLE - A flat glass plate was coated with 2 weight% aqueous solution of linear **polyacrylamide** having weight-average molecular weight of 5000000-6000000, and the coating was allowed to dry. Markings were then applied by hand to the dry coating in separate lines with three Sanford Sharpie pens and standard ballpoint pen. India ink was applied by a wooden rod dipped in the ink. Ink was allowed to dry. The marked plate was combined with other cassette components to form a gel cassette with a gap width of 1 mm. A **polyacrylamide** gel was then cast in the cassette from an aqueous **acrylamide** monomer solution (12 weight%) consisting of monomer and cross-linker (2.5%), catalyst and initiator. As polymerization proceeded, the coating and the markings were combined, and remaining portion of the gel was removed from the cassette. By visual observation, the markings formed by the three Sanford Sharpie pens and the ballpoint pen were clear, sharp and easily readable. (9 pages)

CLASSIFICATION: GENETIC TECHNIQUES and APPLICATIONS, Gene Expression Techniques and Analysis

CONTROLLED TERMS: ELECTROPHORESIS GEL FORMATION, WATER-PERMEABLE POLYMER DRY **FILM**, AQ. GEL FORMING LIQUID, APPL. BIOTECHNOLOGY, **PROTEIN** PURIFICATION, DNA PURIFICATION (23, 51)

L131 ANSWER 9 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

ACCESSION NUMBER: 2005-04564 BIOTECHDS

TITLE: Real-time quantification of **nucleic acid** in amplification reactions, by electrochemical detection, uses a labeled probe, hybridization of which is prevented if DNA being detected is present during amplification; labeled DNA probe for real-time DNA amplification DNA quantification

Searched by Barb O'Bryen, STIC 2-2518

AVAILABILITY: INIST-17946, 354000044990500170
ABSTRACT: The surface modification of low-density polyethylene(PE) by liquid phase photograft polymerization with acrylic acid(AA), **acrylamide**(AM) and glycidyl methacrylate(GMA) was described. The grafting of AA and AM was proved and characterized by electron spectroscopy for chemical analysis(ESCA). It was found that fully hydrophilic surface can be obtained in very short irradiation time. With ESCA and attenuated total reflection infrared spectroscopy(ATR-IR), it can be confirmed that bifunctional monomer GMA was grafted onto the PE **film** surface. Through further reaction with GMA grafted **film**, heparin and protamine were **immobilized** onto the grafted **film** surface.
CLASSIFICATION CODE: 001D09B03; Applied sciences; Physicochemistry of polymers, Macromolecular chemistry, Materials science; Radiation action
CONTROLLED TERM: Low density ethylene polymer; **Film**; Ethylene copolymer; Acrylic acid copolymer; **Acrylamide** copolymer; Glycidyl methacrylate copolymer; Surface reaction; Photochemical grafting; Surface analysis; Property structure relationship; **Wettability** ; **Immobilization**; Heparin; Oside polymer; Protamine; **Proteins**; Experimental study
BROADER TERM: Surface properties

L131 ANSWER 8 OF 44 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
DUPLICATE 1
ACCESSION NUMBER: 2004-25296 BIOTECHDS
TITLE: Forming an electrophoresis gel for e.g. separating molecules, comprises forming indicia in ink on a water-permeable polymer **film**, placing aqueous gel-forming liquid in gel mold, and converting the liquid into a gel;
gel electrophoresis for use in **protein** and DNA purification
AUTHOR: PANATTONI C M; GUEFFROY D E; PROVOST R S
PATENT ASSIGNEE: BIO-RAD LAB INC
PATENT INFO: US 2004195102 7 Oct 2004
APPLICATION INFO: US 2003-408835 3 Apr 2003
PRIORITY INFO: US 2003-408835 3 Apr 2003; US 2003-408835 3 Apr 2003
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-745989 [73]
ABSTRACT: DERWENT ABSTRACT:
NOVELTY - Forming an electrophoresis gel comprises that an indicia in ink is formed on a dry **film** of water-permeable polymer, an aqueous gel-forming liquid is placed in a gel mold having an internal surface with the indicia-bearing **film**, and the gel-forming liquid is allowed to permeate the **film.**
DETAILED DESCRIPTION - Forming an electrophoresis gel comprises that an indicia in ink is formed on a dry **film** of water-permeable polymer that is capable of receiving the ink. An aqueous gel-forming liquid is placed in gel mold having an internal surface with the indicia-bearing **film** which is layered over the surface but not bonded, and gel-forming liquid is allowed to permeate the **film.** The gel-forming liquid is converted into gel

Searched by Barb O'Bryen, STIC 2-2518

protein; blood component; component; animal **protein**; aryl group; group(radical); chemical reaction; synthesis; carboxylic acid; amino sugar; carbohydrate; hexose; reducing sugar

L131 ANSWER 6 OF 44 JICST-EPlus COPYRIGHT 2005 JST on STN
ACCESSION NUMBER: 920314795 JICST-EPlus
TITLE: **Protein** purification by preparative electrophoresis with **immobiline** membranes.
AUTHOR: GOTO M; NITTA T; HIROSE T
CORPORATE SOURCE: Kumamoto Univ., Kumamoto, JPN
SOURCE: Kagaku Kogaku Shinpojiumu Shirizu, (1992) vol. 30, pp. 24-28. Journal Code: F0807B (Fig. 7, Ref. 3)
PUB. COUNTRY: Japan
DOCUMENT TYPE: Conference; Article
LANGUAGE: English
STATUS: New
ABSTRACT:
A multi-compartment electrolyser using amphoteric isoelectric membranes was developed for preparative isoelectric focusing. The current through the electrolyser and the pH in each chamber were stable during a run. A mixture of bovine serum albumin and myoglobin was successfully separated. (author abst.)

CLASSIFICATION: XE03000E; CC01050S (66.085; 544.623.032.73)
CONTROLLED TERM: serum albumin; myoglobin; isoelectric focusing phoresis; isoelectric focusing; amphoteric electrolyte; polymer membrane; **polyacrylamide**; electrolytic cell; hydrogen ion concentration; concentration gradient; current distribution; **film** thickness; purification; biotechnology
BROADER TERM: albumin; **protein**; serum **protein**; blood **protein**; blood component; component; animal **protein**; muscle **protein**; hemoprotein; iron **protein**; metalloprotein; chromoprotein; electrophoresis; biochemical analysis; chemical analysis; analysis(separation); analysis; electrolyte; matter; functional polymer; macromolecule; membrane and **film**; acrylic resin; polymer; thermoplastic; plastic; electrolytic **apparatus**; equipment; acidity; degree; concentration(ratio); gradient; concentration distribution; distribution; thickness; length; geometric quantity; technology

L131 ANSWER 7 OF 44 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1996-0193268 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1996 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Surface modification of polyethylene **film** by liquid phase photograft polymerization
AUTHOR: BAI G.; HU X.; YAN Q.
CORPORATE SOURCE: Institute of Chemistry, Academica Sinica, Beijing 100080, China
SOURCE: Polymer bulletin : (Berlin), (1996), 36(4), 503-510, 10 refs.
ISSN: 0170-0839 CODEN: POBUDR
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Germany, Federal Republic of
LANGUAGE: English

Searched by Barb O'Bryen, STIC 2-2518

thermoplastic; plastic; polymer membrane; functional polymer; macromolecule; membrane and **film**; instrumental analysis; equipment; measurement; ratio; efficiency; phase(thermodynamics)

L131 ANSWER 5 OF 44 JICST-EPlus COPYRIGHT 2005 JST on STN
ACCESSION NUMBER: 980004196 JICST-EPlus
TITLE: Synthetic Methods for Various Functional Neoglycoconjugate Materials.
AUTHOR: YAMAZAKI NOBORU; FURUSAWA KIYOTAKA; KODAMA MAKOTO; KOKUBU TOMOKUNI
CORPORATE SOURCE: Natl. Inst. of Bioscience and Human-Technol. Agency of Ind. Sci. and Technol.
SOURCE: Baiotekunoroji Shinpojiumu Yokoshu, (1997) vol. 15th, pp. 101-105. Journal Code: L0180A (Fig. 3)
PUB. COUNTRY: Japan
DOCUMENT TYPE: Conference; Short Communication
LANGUAGE: Japanese
STATUS: New
ABSTRACT:
(1) Utilization of hydrazine groups for coupling of carbohydrates to polymeric carriers has been investigated. The oligosaccharides obtained by hydrolysis of glycosidic linkages of naturally occurring glycoproteins have hemiacetal functionalities present at their reducing termini. Hydrazine groups react with aldehyde functions of the reducing ends site-specifically. Polymeric cariers containg hydrazine functions are commercially available; therefore the approach may be convenient to practical uses. Preliminary examination using ***polyacrylamide*** hydrazide beads showed some potentiality. (2) Synthesis of glycoplymers for cell culture: p-Nitrophenyl-O-glycosides of galactose, GlcNAc, GalNAc and mannose were synthsized by Phase Tansfer catalysis method. The O-glycosides were acroyllated to give the monomer for polymerrization. They were more hydrophobic than nonmodified **polyacrylamide.** The intermediate compounds were characterised by 1H NMR, **mass** ***spectrum*** and FTIR. They will be used for cell culture experiments to check about their cell and tissue compatibility. (3) A Lewis X-type of neoglycoprotein-liposome conjugates was synthesized by using chemical and enzymatic procedures. First, N-acetylglucosaminylated BSA-coupled liposomes were prepared according to the published two-step chemical reaction. Second, two-step enzymatic glycosylations were performed by using B-1,4-galactosyltransferase and A-1,3-fucosyltransferase. Lectin-binding characteristics of the Lewis X-type of neoglycoprotein-liposome conjugates were analyzed by using **immobilized** Lotus lectin and Aleuria lectin. The Lex-type neoglycoconjugates showed especially strong inhibitory potency in the case of Lotus lectin. A biodistribution assay showed individual responses among three types of neoglycoprotein-liposome conjugates. This new type of neoglycoconjugates may find applications in carbohydrate recognition research as well as in cell-type specific targeting. (author abst.)

CLASSIFICATION: EB06010I (577.114)
CONTROLLED TERM: sugar sequence; functional polymer; **polyacrylamide** ; hydrazine; hydrazide; liposome; glycoprotein; **protein** complex; serum albumin; phenyl group; chemical synthesis; carbohydrate chain; aliphatic carboxylic acid; hexosamine; carboxamide; sugar ether
BROADER TERM: sequence and arrangement; molecular structure; macromolecule; acrylic resin; polymer; thermoplastic; plastic; hydride; hydrogen compound; nitrogen compound; nitrogen group element compound; lipid membrane; artificial membrane; membrane and **film**; **protein**; complex(substance); albumin; serum **protein**; blood

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responsible).

CONTROLLED TERM: Amino Acid Sequence
Animals
Antibodies: CH, chemistry
Antibodies, Monoclonal: CH, chemistry
*Antigen-Antibody Reactions
Antigens: CH, chemistry
Binding Sites
Collodion
Humans
Hydrolysis
Immunoglobulin G: CH, chemistry
Interferon Alfa-2a: CH, chemistry
Membranes, Artificial
Mice
Molecular Sequence Data
Research Support, Non-U.S. Gov't
Spectrometry, Mass, Matrix-Assisted Laser Desorption-Ionization
***Spectrum Analysis, Mass: MT, methods**
Trypsin
CAS REGISTRY NO.: 76543-88-9 (Interferon Alfa-2a); 9004-70-0 (Collodion)
CHEMICAL NAME: 0 (Antibodies); 0 (Antibodies, Monoclonal); 0 (Antigens); 0 (Immunoglobulin G); EC 3.4.21.4 (Trypsin)

L131 ANSWER 4 OF 44 JICST-EPlus COPYRIGHT 2005 JST on STN
ACCESSION NUMBER: 1050291254 JICST-EPlus
TITLE: Evaluation of Solution Phase Isoelectrofocusing as Part of Proteomics Strategies
AUTHOR: AN Y; FU Z; FENSELAU C
CORPORATE SOURCE: Univ. Maryland, Md, Usa
SOURCE: J Mass Spectrom Soc Jpn, (2005) vol. 53, no. 1, pp. 1-6.
Journal Code: G0046A (Fig. 5, Tbl. 2, Ref. 5)
ISSN: 1340-8097
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
STATUS: New
ABSTRACT:
Solution isoelectrofocusing has been evaluated for prefractionation of nuclear ***proteins*** from human cancer MCF-7 cells. Two separation devices were exercised using commercial **polyacrylamide** membranes, which carry embedded **immobiline** mixtures to establish pH boundaries between chambers. **Protein** recovery was quantified and 2-D gel electrophoresis was used to evaluate resolution. Solution isoelectrofocusing provides satisfactory separations and decreases the complexity of the **protein** mixture, however rates of recovery need to be improved. (author abst.)

CLASSIFICATION: CC01050S; EB03010N (544.623.032.73; 577.112)
CONTROLLED TERM: isoelectric focusing phoresis; nucleoprotein; human(primates); tumor cell; isoelectric focusing; gel electrophoresis; **polyacrylamide**; polymeric separation membrane; **mass spectrometry**; electrolytic **apparatus**; two-dimensional electrophoresis; TOF; recovery rate; separation efficiency; liquid phase
BROADER TERM: electrophoresis; **protein**; idioblast; cell(cytology); biochemical analysis; chemical analysis; analysis(separation); analysis; acrylic resin; polymer;

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*Electrophoresis, Capillary: MT, methods
Gels
Hydrogen-Ion Concentration
Insulin: ME, metabolism
Molecular Sequence Data
Muramidase: ME, metabolism
*Pepsin A: ME, metabolism
*Peptide Mapping: MT, methods
Peptides: CH, chemistry
Peptides: IP, isolation & purification
Photochemistry
***Proteins: AN, analysis**
Proteins: CH, chemistry
Proteins: ME, metabolism
Research Support, Non-U.S. Gov't
***Spectrometry, Mass, Electrospray Ionization: MT, methods**
Surface Properties

CAS REGISTRY NO.: 11061-68-0 (Insulin); 3786-08-1 (N-acetylphenylalanyl-3,5-diiodotyrosine)
CHEMICAL NAME: 0 (Dipeptides); 0 (Gels); 0 (Peptides); 0 (Proteins); EC 3.2.1.17 (Muramidase); EC 3.4.23.1 (Pepsin A)

L131 ANSWER 3 OF 44 MEDLINE on STN
ACCESSION NUMBER: 2001507281 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11555875
TITLE: Use of nitrocellulose **films** for affinity-directed mass spectrometry for the analysis of antibody/antigen interactions.
AUTHOR: Sun S; Mo W; Ji Y; Liu S
CORPORATE SOURCE: Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China.
SOURCE: Rapid communications in mass spectrometry : RCM, (2001) 15 (18) 1743-6.
Journal code: 8802365. ISSN: 0951-4198.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200111
ENTRY DATE: Entered STN: 20010917
Last Updated on STN: 20011105
Entered Medline: 20011101

ABSTRACT:
Combination of affinity extraction procedures with mass spectrometric analyses is termed affinity-directed mass spectrometry, a technique that has gained broad interest in immunology and is extended here with several improvements from methods used in previous studies. A monoclonal antibody was ***immobilized*** on a nitrocellulose (NC) membrane, allowing the corresponding antigen to be selectively captured from a complex solution for analysis by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOFMS). This method was also used to rapidly determine the approximate binding region responsible for the antibody/antigen interaction. The tryptic fragments of antigen protein in buffer were applied to the antibody ***immobilized*** on NC **film** and allowed to interact. The NC ***film*** was then washed to remove salts and other unbound components, and subjected to analysis by MALDI-TOFMS. Using interferon-alpha(2a) and anti-interferon-alpha(2a) monoclonal antibody IgG as a model system, we successfully extracted the antigen protein and determined the approximate binding region for the antigen/antibody interaction (i.e., the tryptic fragment

*Muramidase: CH, chemistry
*Muramidase: UL, ultrastructure
Protein Binding
Research Support, Non-U.S. Gov't
Surface Properties
CAS REGISTRY NO.: 9007-43-6 (Cytochromes c)
CHEMICAL NAME: 0 (Coated Materials, Biocompatible); 0 (Enzymes, **Immobilized**); EC 3.2.1.17 (Muramidase)

L131 ANSWER 2 OF 44 MEDLINE on STN
ACCESSION NUMBER: 2004200726 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15053649
TITLE: Integration of on-line protein digestion, peptide separation, and protein identification using pepsin-coated photopolymerized sol-gel columns and capillary electrophoresis/mass spectrometry.
AUTHOR: Kato Masaru; Sakai-Kato Kumiko; Jin HongMei; Kubota Kazuyuki; Miyano Hiroshi; Toyo'oka Toshimasa; Dulay Maria T; Zare Richard N
CORPORATE SOURCE: Department of Analytical Chemistry, School of Pharmaceutical Sciences and COE Program in the 21st Century, University of Shizuoka, 52-1 Yada Shizuoka, Shizuoka 422-8526, Japan.. daikato@u-shizuoka-ken.ac.jp
SOURCE: Analytical chemistry, (2004 Apr 1) 76 (7) 1896-902. Journal code: 0370536. ISSN: 0003-2700.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200502
ENTRY DATE: Entered STN: 20040422
Last Updated on STN: 20050204
Entered Medline: 20050203

ABSTRACT:
A miniaturized pepsin reactor was prepared inside a fused-silica capillary (i.d. 75 microm) by coating a pepsin-containing gel on a photopolymerized porous silica monolith. The pepsin-encapsulated **film** was prepared by a sol-gel method. The sol-gel reaction was optimized so that the sol solution containing pepsin forms a thin **film** on the photopolymerized sol-gel (PSG) monolith that was initially fabricated at the inlet of the capillary. Pepsin was encapsulated into the gel matrix without losing its activity. The large surface area of the PSG monolith enabled the **immobilized** pepsin to achieve a high catalytic turnover rate, and the porous nature of the PSG promotes penetration of large molecular proteins into the column. The ***immobilized*** pepsin-digested peptides and proteins, and the resulting mixture of peptide fragments, could be directly separated in the portion of the capillary where no PSG monolith exists. The durability and repeatability of the fabricated pepsin-coated column was tested and found to be satisfactory. An acidic solution consisting of 0.5 M formic acid was used as the running buffer, because it suppresses the adsorption of proteins or peptides on the inner surface of the capillary as well as enables direct connection of the output of the capillary electrophoresis column to a mass spectrometer. The on-line digestion of insulin chain beta and lysozyme provides identification of the proteolytic peptides. Recovery was achieved for 100% of the insulin chain beta amino acid sequence and 73% of the lysozyme amino acid sequence.
CONTROLLED TERM: Amino Acid Sequence
Animals
*Chromatography, Gel: MT, methods
Digestion
Dipeptides: ME, metabolism

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ANSWERS '1-3' FROM FILE MEDLINE
ANSWERS '4-6' FROM FILE JICST-EPLUS
ANSWER '7' FROM FILE PASCAL
ANSWERS '8-13' FROM FILE BIOTECHDS
ANSWERS '14-25' FROM FILE CAPLUS
ANSWERS '26-33' FROM FILE DISSABS
ANSWERS '34-37' FROM FILE BIOSIS
ANSWERS '38-44' FROM FILE WPIDS

=> d iall 1-13; d ibib ed abs hitind 14-25; d iall 26-44; fil hom

L131 ANSWER 1 OF 44 MEDLINE on STN
ACCESSION NUMBER: 2005052241 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15681209
TITLE: Enthalpy changes associated with protein binding to thin **films.**
AUTHOR: Rick John; Chou Tse-Chuan
CORPORATE SOURCE: Chemical Engineering Department, National Cheng Kung University, Tainan 70101, Taiwan.
SOURCE: Biosensors & bioelectronics, (2005 Mar 15) 20 (9) 1878-83. Journal code: 9001289. ISSN: 0956-5663.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: (EVALUATION STUDIES) Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200506
ENTRY DATE: Entered STN: 20050202
Last Updated on STN: 20050625
Entered Medline: 20050624

ABSTRACT:
Molecularly imprinted thin **films** consisting of proteins embedded in polymerised aminophenyl boronic acid have been made on glass supports. The protein contents of the **films** have been optimised to achieve a maximum energy of interaction between the **film** and the native template. The fabrication of the **films** and the subsequent removal from their surfaces of the imprint proteins has been shown to be a facile and easily reproduced process. The enthalpy changes associated with the rebinding of the **films** with their original templates (lysozyme and cytochrome c) and with non-native templates has been examined by micro-calorimetry. The results demonstrate that thin **films** can be successfully imprinted as shown by the significant reduction in the enthalpy (DeltaH) observed when the ***films*** were rebound with proteins other than the original templates. Additionally, it was shown that after binding, non-template proteins could be removed by washing and a greater enthalpy again observed when the **films** were rebound with the native protein compared to that which had been found with the non-native protein.

CONTROLLED TERM: Check Tags: Comparative Study
Binding Sites
Biosensing Techniques: IS, instrumentation
***Biosensing Techniques: MT, methods**
Coated Materials, Biocompatible: AN, analysis
*Coated Materials, Biocompatible: CH, chemistry
***Cytochromes c: CH, chemistry**
*Cytochromes c: UL, ultrastructure
Energy Transfer
Enzymes, Immobilized: AN, analysis
Enzymes, Immobilized: CH, chemistry
Materials Testing
Membranes, Artificial

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L115       71943 SEA FILE=MEDLINE ABB=ON  SPECTRUM ANALYSIS, MASS+NT/CT
L117           2 SEA FILE=MEDLINE ABB=ON  L106 AND  L115



L98       775309 SEA FILE=MEDLINE ABB=ON  NUCLEIC ACIDS+NT/CT
L99      2812440 SEA FILE=MEDLINE ABB=ON  D12.776./CT
L103      929640 SEA FILE=MEDLINE ABB=ON  (L98 OR L99)(L)(AN OR CH OR IP)/CT
L104       45403 SEA FILE=MEDLINE ABB=ON  FILM#
L105       76887 SEA FILE=MEDLINE ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR
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L107        6296 SEA FILE=MEDLINE ABB=ON  BIOSENSING TECHNIQUES/CT
L108        1270 SEA FILE=MEDLINE ABB=ON  L107(L)IS/CT
L109        1978 SEA FILE=MEDLINE ABB=ON  L107(L)MT/CT
L112        3010 SEA FILE=MEDLINE ABB=ON  DONOR#(1A)ACCEPTOR#
L113      137634 SEA FILE=MEDLINE ABB=ON  WET? OR MIGRAT?
L114      225541 SEA FILE=MEDLINE ABB=ON  BINDING SITE#
L124           1 SEA FILE=MEDLINE ABB=ON  L103 AND L104 AND L105 AND L108 AND
                 L109 AND (L112 OR L113 OR L114)


=> s l117 or l124

L130           3 L117 OR L124

=> dup rem l130,l57,l127,l129,l95,l128
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PROCESSING COMPLETED FOR L57
PROCESSING COMPLETED FOR L127
PROCESSING COMPLETED FOR L129
PROCESSING COMPLETED FOR L95
PROCESSING COMPLETED FOR L128
L131          44 DUP REM L130 L57 L127 L129 L95 L128 (1 DUPLICATE REMOVED)
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 August 2005 (20050817/ED)

FILE RELOADED: 19 October 2003.

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                79-06-1/BI OR 9003-05-8/BI OR 9012-36-6/BI OR 9031-11-2/BI)
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L81     1701849 SEA FILE=BIOSIS ABB=ON  PROTEIN#
L82      787147 SEA FILE=BIOSIS ABB=ON  ENZYME#
L83       93442 SEA FILE=BIOSIS ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR
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L84       39152 SEA FILE=BIOSIS ABB=ON  FILM#
L85      117871 SEA FILE=BIOSIS ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR
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L86        3280 SEA FILE=BIOSIS ABB=ON  DONOR#(1A)ACCEPTOR#
L87      101818 SEA FILE=BIOSIS ABB=ON  MASS(A)SPECTR?
L88      214650 SEA FILE=BIOSIS ABB=ON  WET? OR MIGRAT?
L89      236865 SEA FILE=BIOSIS ABB=ON  APPARATUS
L90      127119 SEA FILE=BIOSIS ABB=ON  BINDING SITE#
L93       22643 SEA FILE=BIOSIS ABB=ON  L3
L95           4 SEA FILE=BIOSIS ABB=ON  (L80 OR L81 OR L82) AND L83 AND L84
                AND (L85 OR L93) AND (L86 OR L87 OR L88 OR L89 OR L90)
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=> fil medl; d que l117; d que l124

FILE 'MEDLINE' ENTERED AT 10:38:22 ON 23 AUG 2005

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The MEDLINE reload for 2005 is now available. For details enter HELP
RLOAD at an arrow promt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

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L98      775309 SEA FILE=MEDLINE ABB=ON  NUCLEIC ACIDS+NT/CT
L99     2812440 SEA FILE=MEDLINE ABB=ON  D12.776./CT
L103     929640 SEA FILE=MEDLINE ABB=ON  (L98 OR L99)(L)(AN OR CH OR IP)/CT
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L105      76887 SEA FILE=MEDLINE ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR
                PHASE#)
L106        214 SEA FILE=MEDLINE ABB=ON  L103 AND L104 AND L105
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L57          10 SEA (L43 OR L44 OR L45) AND L46 AND L47 AND (L48 OR L49) AND
                (L50 OR L51 OR L52 OR L53)


=> fil confsci dissabs

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=> d que l72; d que l73; d que l78

L59          3826 SEA NUCLEIC?(W) ACID#
L60        130290 SEA PROTEIN#
L61         46235 SEA ENZYME#
L62         10663 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L63         44598 SEA FILM#
L64          6281 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
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L72             4 SEA (L59 OR L60 OR L61) AND L62 AND L63 AND L64


L59          3826 SEA NUCLEIC?(W) ACID#
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L62         10663 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
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L64          6281 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
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L65          1253 SEA DONOR#(1A) ACCEPTOR#
L73             1 SEA (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND L65


L59          3826 SEA NUCLEIC?(W) ACID#
L60        130290 SEA PROTEIN#
L61         46235 SEA ENZYME#
L62         10663 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
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L64          6281 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
                  ACRYL AMIDE)) OR AGAROSE#
L66         15175 SEA MASS(A) SPECTR?
L67         38006 SEA WET? OR MIGRAT?
L77         12486 SEA BINDING SITE#
L78             3 SEA (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND (L66 OR
                  L67) AND L77


=> s l72 or l73 or l78

L129            8 L72 OR L73 OR L78

=> fil biosis; d que l95

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L18        59698 SEA FILE=WPIDS ABB=ON  ?NUCLEIC?(W)ACID#
L19       146546 SEA FILE=WPIDS ABB=ON  PROTEIN#
L20        80989 SEA FILE=WPIDS ABB=ON  ENZYME#
L21        29250 SEA FILE=WPIDS ABB=ON  IMMOBILI?
L22       791115 SEA FILE=WPIDS ABB=ON  FILM#
L24        24951 SEA FILE=WPIDS ABB=ON  SOLID(W)(SUPPORT# OR PHASE#)
L25         4308 SEA FILE=WPIDS ABB=ON  ACYLAMIDE OR ACRYL AMIDE OR AGAROSE
L29       474410 SEA FILE=WPIDS ABB=ON  S03/DC
L38           20 SEA FILE=WPIDS ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24)
                 AND L25 AND L22 AND L29
L40       159842 SEA FILE=WPIDS ABB=ON  WET? OR MIGRAT?
L41            5 SEA FILE=WPIDS ABB=ON  L38 AND L40

=> s l32 or l35 or l39 or l41
L128           8 L32 OR L35 OR L39 OR L41

=> fil JICST-EPLUS, PASCAL, BIOTECHNO, ESBIOBASE, BIOTECHDS, CEABA-VTB

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=> d que l57

L2             6 SEA FILE=REGISTRY ABB=ON  (13463-67-7/BI OR 6160-78-7/BI OR
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L44      2457001 SEA PROTEIN#
L45      1587423 SEA ENZYME#
L46       216261 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L47       630422 SEA FILM#
L48       115732 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
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L49         1581 SEA L3
L50        10696 SEA DONOR#(1A) ACCEPTOR#
L51       198512 SEA MASS(A) SPECTR?
L52       317385 SEA WET? OR MIGRAT?
L53       208688 SEA APPARATUS
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=> d que l32; d que l35; d que l39; d que l41

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L19       146546 SEA FILE=WPIDS ABB=ON  PROTEIN#
L20        80989 SEA FILE=WPIDS ABB=ON  ENZYME#
L21        29250 SEA FILE=WPIDS ABB=ON  IMMOBILI?
L22       791115 SEA FILE=WPIDS ABB=ON  FILM#
L23          349 SEA FILE=WPIDS ABB=ON  DONOR#(W)ACCEPTOR#
L24        24951 SEA FILE=WPIDS ABB=ON  SOLID(W)(SUPPORT# OR PHASE#)
L29       474410 SEA FILE=WPIDS ABB=ON  S03/DC
L31          472 SEA FILE=WPIDS ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24)
                 AND L22 AND L29
L32            2 SEA FILE=WPIDS ABB=ON  L31 AND L23


L18        59698 SEA FILE=WPIDS ABB=ON  ?NUCLEIC?(W)ACID#
L19       146546 SEA FILE=WPIDS ABB=ON  PROTEIN#
L20        80989 SEA FILE=WPIDS ABB=ON  ENZYME#
L21        29250 SEA FILE=WPIDS ABB=ON  IMMOBILI?
L22       791115 SEA FILE=WPIDS ABB=ON  FILM#
L24        24951 SEA FILE=WPIDS ABB=ON  SOLID(W)(SUPPORT# OR PHASE#)
L25         4308 SEA FILE=WPIDS ABB=ON  ACYLAMIDE OR ACRYL AMIDE OR AGAROSE
L26        10292 SEA FILE=WPIDS ABB=ON  MASS SPEC?
L29       474410 SEA FILE=WPIDS ABB=ON  S03/DC
L31          472 SEA FILE=WPIDS ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24)
                 AND L22 AND L29
L35            2 SEA FILE=WPIDS ABB=ON  L31 AND L25 AND L26


L18        59698 SEA FILE=WPIDS ABB=ON  ?NUCLEIC?(W)ACID#
L19       146546 SEA FILE=WPIDS ABB=ON  PROTEIN#
L20        80989 SEA FILE=WPIDS ABB=ON  ENZYME#
L21        29250 SEA FILE=WPIDS ABB=ON  IMMOBILI?
L22       791115 SEA FILE=WPIDS ABB=ON  FILM#
L23          349 SEA FILE=WPIDS ABB=ON  DONOR#(W)ACCEPTOR#
L24        24951 SEA FILE=WPIDS ABB=ON  SOLID(W)(SUPPORT# OR PHASE#)
L25         4308 SEA FILE=WPIDS ABB=ON  ACYLAMIDE OR ACRYL AMIDE OR AGAROSE
L26        10292 SEA FILE=WPIDS ABB=ON  MASS SPEC?
L39            3 SEA FILE=WPIDS ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24)
                 AND L25 AND L22 AND (L23 OR L26)
```

Searched by Barb O'Bryen, STIC 2-2518

=> □

=> fil capl; d que l15
FILE 'CAPLUS' ENTERED AT 10:38:08 ON 23 AUG 2005
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FILE COVERS 1907 - 23 Aug 2005 VOL 143 ISS 9
FILE LAST UPDATED: 22 Aug 2005 (20050822/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

L2	6	SEA FILE=REGISTRY ABB=ON	(13463-67-7/BI OR 6160-78-7/BI OR 79-06-1/BI OR 9003-05-8/BI OR 9012-36-6/BI OR 9031-11-2/BI)
L3	2	SEA FILE=REGISTRY ABB=ON	L2 AND PMS/CI
L4	31241	SEA FILE=CAPLUS ABB=ON	L3
L7	303677	SEA FILE=CAPLUS ABB=ON	?NUCLEIC?/BI(W)ACIDS/CW
L8	790790	SEA FILE=CAPLUS ABB=ON	PROTEINS/CT
L9	176021	SEA FILE=CAPLUS ABB=ON	ENZYMES/CT
L11	24941	SEA FILE=CAPLUS ABB=ON	IMMOBILIZATION/CW
L12	714952	SEA FILE=CAPLUS ABB=ON	FILM#/OBI
L14	43995	SEA FILE=CAPLUS ABB=ON	(L7 OR L8 OR L9)(L)ANT/RL Role ANT = analyte
L15	13	SEA FILE=CAPLUS ABB=ON	L4 AND L14 AND L11 AND L12

=> s l15 not l125

L127 12 L15 NOT L125 printed w/ inventor search

=> fil wpids

FILE 'WPIDS' ENTERED AT 10:38:10 ON 23 AUG 2005

FILE LAST UPDATED: 18 AUG 2005 <20050818/UP>
MOST RECENT DERWENT UPDATE: 200553 <200553/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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Searched by Barb O'Bryen, STIC 2-2518

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-650261 A 20030827

ED Entered STN: 04 Mar 2005

AB The present invention provides methods and apparatuses for detecting the presence of immobilized mol. analytes. The invention uses a novel film layer comprising a mol. ligand that is capable of diffusibly migrating to the immobilized mol. analyte. A variety of detection methods are useful in detecting the resulting detectable product.

IC ICM C12Q001-68
ICS G01N033-53; G01N033-567; G01N033-537; G01N033-543

INCL 435006000; 435007920

CC 9-16 (Biochemical Methods)

IT 79-06-1, Acrylamide, analysis **9003-05-8**, Polyacrylamide **9012-36-6**, Agarose
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)
(film layer for detection of immobilized analytes)

Searched by Barb O'Bryen, STIC 2-2518

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow promt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L97          783 SEA FILE=MEDLINE ABB=ON  KIM R?/AU
L107        6296 SEA FILE=MEDLINE ABB=ON  BIOSENSING TECHNIQUES/CT
L118           0 SEA FILE=MEDLINE ABB=ON  L97 AND L107


=> dup rem l125,l27
FILE 'CAPLUS' ENTERED AT 10:35:55 ON 23 AUG 2005
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PROCESSING COMPLETED FOR L125
PROCESSING COMPLETED FOR L27
L126           1 DUP REM L125 L27 (1 DUPLICATE REMOVED)
                 ANSWER '1' FROM FILE CAPLUS

=> d ibib ed abs hitind l126

L126 ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN  DUPLICATE 1
ACCESSION NUMBER:          2005:182242  CAPLUS
DOCUMENT NUMBER:           142:236102
TITLE:                     Film layer for detection of immobilized analytes
INVENTOR(S):               Kim, Raymond
PATENT ASSIGNEE(S):        Zyomyx, Inc., USA
SOURCE:                    U.S. Pat. Appl. Publ., 18 pp.
                           CODEN: USXXCO
DOCUMENT TYPE:             Patent
LANGUAGE:                  English
FAMILY ACC. NUM. COUNT:    1
PATENT INFORMATION:

     PATENT NO.            KIND   DATE        APPLICATION NO.          DATE
     ----------------      ----   --------    ---------------------    --------
     US 2005048493          A1    20050303    US 2003-650261           20030827 <--
     WO 2005022151          A1    20050310    WO 2004-US28007          20040827
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
```

Searched by Barb O'Bryen, STIC 2-2518

```
L49          1581 SEA L3
L54             0 SEA L42 AND (L43 OR L44 OR L45) AND L46 AND (L47 OR L48 OR
                  L49)


=> fil confsci dissabs

FILE 'CONFSCI' ENTERED AT 10:35:39 ON 23 AUG 2005
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FILE 'DISSABS' ENTERED AT 10:35:39 ON 23 AUG 2005
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=> d que l69

L58           148 SEA KIM R?/AU
L59          3826 SEA NUCLEIC?(W) ACID#
L60        130290 SEA PROTEIN#
L61         46235 SEA ENZYME#
L62         10663 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L63         44598 SEA FILM#
L64          6281 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
                  ACRYL AMIDE)) OR AGAROSE#
L69             0 SEA L58 AND (L59 OR L60 OR L61) AND L62 AND (L63 OR L64)


=> fil biosis; d que l91

FILE 'BIOSIS' ENTERED AT 10:35:41 ON 23 AUG 2005
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 August 2005 (20050817/ED)

FILE RELOADED: 19 October 2003.


L79           988 SEA FILE=BIOSIS ABB=ON  KIM R?/AU
L80         57122 SEA FILE=BIOSIS ABB=ON  ?NUCLEIC?(W)ACID#
L81       1701849 SEA FILE=BIOSIS ABB=ON  PROTEIN#
L82        787147 SEA FILE=BIOSIS ABB=ON  ENZYME#
L83         93442 SEA FILE=BIOSIS ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR
                  PHASE#)
L84         39152 SEA FILE=BIOSIS ABB=ON  FILM#
L85        117871 SEA FILE=BIOSIS ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR
                  (POLY(W)(ACRYLAMIDE OR ACRYL AMIDE)) OR AGAROSE#
L91             0 SEA FILE=BIOSIS ABB=ON  L79 AND (L80 OR L81 OR L82) AND L83
                  AND (L84 OR L85)


=> fil medl; d que l118

FILE 'MEDLINE' ENTERED AT 10:35:42 ON 23 AUG 2005

 FILE LAST UPDATED: 20 AUG 2005 (20050820/UP).  FILE COVERS 1950 TO DATE.

 On December 19, 2004, the 2005 MeSH terms were loaded.

                    Searched by Barb O'Bryen, STIC  2-2518
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    GUIDES, PLEASE VISIT:
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    FOR DETAILS. <<<


L17          438 SEA FILE=WPIDS ABB=ON  KIM R?/AU
L18        59698 SEA FILE=WPIDS ABB=ON  ?NUCLEIC?(W)ACID#
L19       146546 SEA FILE=WPIDS ABB=ON  PROTEIN#
L20        80989 SEA FILE=WPIDS ABB=ON  ENZYME#
L21        29250 SEA FILE=WPIDS ABB=ON  IMMOBILI?
L22       791115 SEA FILE=WPIDS ABB=ON  FILM#
L27            1 SEA FILE=WPIDS ABB=ON  L17 AND (L18 OR L19 OR L20) AND L21 AND
                 L22


=> fil JICST-EPLUS, PASCAL, BIOTECHNO, ESBIOBASE, BIOTECHDS, CEABA-VTB

FILE 'JICST-EPLUS' ENTERED AT 10:35:36 ON 23 AUG 2005
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FILE 'CEABA-VTB' ENTERED AT 10:35:36 ON 23 AUG 2005
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=> d que l54

L2             6 SEA FILE=REGISTRY ABB=ON  (13463-67-7/BI OR 6160-78-7/BI OR
                 79-06-1/BI OR 9003-05-8/BI OR 9012-36-6/BI OR 9031-11-2/BI)
L3             2 SEA FILE=REGISTRY ABB=ON  L2 AND PMS/CI
L42         1171 SEA KIM R?/AU
L43       199972 SEA ?NUCLEIC?(W) ACID#
L44      2457001 SEA PROTEIN#
L45      1587423 SEA ENZYME#
L46       216261 SEA IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L47       630422 SEA FILM#
L48       115732 SEA ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE OR
                 ACRYL AMIDE)) OR AGAROSE
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Searched by Barb O'Bryen, STIC 2-2518

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=> fil capl; d que l1; d que l6
FILE 'CAPLUS' ENTERED AT 10:35:32 ON 23 AUG 2005
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FILE COVERS 1907 - 23 Aug 2005  VOL 143 ISS 9
FILE LAST UPDATED: 22 Aug 2005  (20050822/ED)

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  This file contains CAS Registry Numbers for easy and accurate
  substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE


L1             1 SEA FILE=CAPLUS ABB=ON  US2003-650261/AP



L2             6 SEA FILE=REGISTRY ABB=ON  (13463-67-7/BI OR 6160-78-7/BI OR
                 79-06-1/BI OR 9003-05-8/BI OR 9012-36-6/BI OR 9031-11-2/BI)
L3             2 SEA FILE=REGISTRY ABB=ON  L2 AND PMS/CI
L4         31241 SEA FILE=CAPLUS ABB=ON  L3
L5           855 SEA FILE=CAPLUS ABB=ON  KIM R?/AU
L6             3 SEA FILE=CAPLUS ABB=ON  L4 AND L5


=> s l1 and l6

L125           1 L1 AND L6

=> fil wpids; d que l27

FILE 'WPIDS' ENTERED AT 10:35:34 ON 23 AUG 2005
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FILE LAST UPDATED:           18 AUG 2005      <20050818/UP>
MOST RECENT DERWENT UPDATE:     200553         <200553/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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```
=> d his full

     (FILE 'HOME' ENTERED AT 09:37:59 ON 23 AUG 2005)

     FILE 'CAPLUS' ENTERED AT 09:38:08 ON 23 AUG 2005
                SET LINE 250
                SET DETAIL OFF
                E US2003-650261/AP,PRN 25
                SET NOTICE 1000 SEARCH
L1            1 SEA ABB=ON  US2003-650261/AP
                SET NOTICE LOGIN SEARCH
                SET LINE LOGIN
                SET DETAIL LOGIN
                D SCAN
                SEL RN

     FILE 'REGISTRY' ENTERED AT 09:39:33 ON 23 AUG 2005
L2            6 SEA ABB=ON  (13463-67-7/BI OR 6160-78-7/BI OR 79-06-1/BI OR
                9003-05-8/BI OR 9012-36-6/BI OR 9031-11-2/BI)
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 09:39:44 ON 23 AUG 2005

     FILE 'REGISTRY' ENTERED AT 09:43:51 ON 23 AUG 2005
L3            2 SEA ABB=ON  L2 AND PMS/CI

     FILE 'CAPLUS' ENTERED AT 09:44:17 ON 23 AUG 2005
L4        31241 SEA ABB=ON  L3
L5          855 SEA ABB=ON  KIM R?/AU
L6            3 SEA ABB=ON  L4 AND L5
                D SCAN TI
                D SCAN L1
                E NUCLEIC ACIDS+ALL/CT
L*** DEL  56908 S ?NUCLEIC?(W)ACIDS/CW
L7       303677 SEA ABB=ON  ?NUCLEIC?/BI(W)ACIDS/CW
                E NUCLEIC ACIDS/CT
L8       790790 SEA ABB=ON  PROTEINS/CT
L9       176021 SEA ABB=ON  ENZYMES/CT
                D SCAN L1
L10       76596 SEA ABB=ON  (L7 OR L8 OR L9)(L)ANST/RL
                E IMMOBILIZATION, MOLECULAR OR CELLULAR+ALL/CT
L11       24941 SEA ABB=ON  IMMOBILIZATION/CW
                E ULTRATHIN FILMS+ALL/CT
L12      714952 SEA ABB=ON  FILM#/OBI

     FILE 'STNGUIDE' ENTERED AT 09:49:01 ON 23 AUG 2005

     FILE 'CAPLUS' ENTERED AT 09:52:59 ON 23 AUG 2005
L13          21 SEA ABB=ON  L4 AND L10 AND L11 AND L12
L14       43995 SEA ABB=ON  (L7 OR L8 OR L9)(L)ANT/RL
L15          13 SEA ABB=ON  L4 AND L14 AND L11 AND L12
L16           1 SEA ABB=ON  L4 AND L14 AND L11 AND L12 AND L5

     FILE 'WPIDS' ENTERED AT 09:54:56 ON 23 AUG 2005
L17         438 SEA ABB=ON  KIM R?/AU
L18       59698 SEA ABB=ON  ?NUCLEIC?(W)ACID#
L19      146546 SEA ABB=ON  PROTEIN#
L20       80989 SEA ABB=ON  ENZYME#
L21       29250 SEA ABB=ON  IMMOBILI?
L22      791115 SEA ABB=ON  FILM#
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Searched by Barb O'Bryen, STIC 2-2518

```
L23          349 SEA ABB=ON  DONOR#(W)ACCEPTOR#
L24        24951 SEA ABB=ON  SOLID(W)(SUPPORT# OR PHASE#)
L25         4308 SEA ABB=ON  ACYLAMIDE OR ACRYL AMIDE OR AGAROSE
L26        10292 SEA ABB=ON  MASS SPEC?
L27            1 SEA ABB=ON  L17 AND (L18 OR L19 OR L20) AND L21 AND L22
                 D SCAN
                 D TRIAL
                 E S03/DC
                 E S/DC
L28           54 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L22 AND
                 (L23 OR L25 OR L26)
L29       474410 SEA ABB=ON  S03/DC
L30           33 SEA ABB=ON  L28 AND L29
L31          472 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L22 AND
                 L29
L32            2 SEA ABB=ON  L31 AND L23
L33           20 SEA ABB=ON  L31 AND L25
L34           14 SEA ABB=ON  L31 AND L26
L35            2 SEA ABB=ON  L31 AND L25 AND L26
L36           39 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L25 AND
                 L22
L37            2 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L25 AND
                 L22 AND L29 AND (L23 OR L26)
L38           20 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L25 AND
                 L22 AND L29
L39            3 SEA ABB=ON  (L18 OR L19 OR L20) AND (L21 OR L24) AND L25 AND
                 L22 AND (L23 OR L26)
                 D QUE L38
L40       159842 SEA ABB=ON  WET? OR MIGRAT?
L41            5 SEA ABB=ON  L38 AND L40
                 D TRIAL 1-5

     FILE 'STNGUIDE' ENTERED AT 10:03:50 ON 23 AUG 2005

     FILE 'JICST-EPLUS, PASCAL, BIOTECHNO, ESBIOBASE, BIOTECHDS, CEABA-VTB'
     ENTERED AT 10:09:16 ON 23 AUG 2005
L42         1171 SEA ABB=ON  KIM R?/AU
L43       199972 SEA ABB=ON  ?NUCLEIC?(W) ACID#
L44      2457001 SEA ABB=ON  PROTEIN#
L45      1587423 SEA ABB=ON  ENZYME#
L46       216261 SEA ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L47       630422 SEA ABB=ON  FILM#
L48       115732 SEA ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE
                  OR ACRYL AMIDE)) OR AGAROSE
L49         1581 SEA ABB=ON  L3
L50        10696 SEA ABB=ON  DONOR#(1A) ACCEPTOR#
L51       198512 SEA ABB=ON  MASS(A) SPECTR?
L52       317385 SEA ABB=ON  WET? OR MIGRAT?
L53       208688 SEA ABB=ON  APPARATUS
L54            0 SEA ABB=ON  L42 AND (L43 OR L44 OR L45) AND L46 AND (L47 OR
                 L48 OR L49)
L55          136 SEA ABB=ON  (L43 OR L44 OR L45) AND L46 AND L47 AND (L48 OR
                 L49)
L56            4 SEA ABB=ON  (L43 OR L44 OR L45) AND L46 AND L47 AND (L48 OR
                 L49) AND L53
L57           10 SEA ABB=ON  (L43 OR L44 OR L45) AND L46 AND L47 AND (L48 OR
                 L49) AND (L50 OR L51 OR L52 OR L53)

     FILE 'CONFSCI, DISSABS' ENTERED AT 10:14:35 ON 23 AUG 2005
L58          148 SEA ABB=ON  KIM R?/AU
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Searched by Barb O'Bryen, STIC 2-2518

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L*** DEL    4953 S ?NUCLEIC?(W)ACID#
L59         3826 SEA ABB=ON  NUCLEIC?(W) ACID#
L60       130290 SEA ABB=ON  PROTEIN#
L61        46235 SEA ABB=ON  ENZYME#
L62        10663 SEA ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L63        44598 SEA ABB=ON  FILM#
L64         6281 SEA ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE
                  OR ACRYL AMIDE)) OR AGAROSE#
L65         1253 SEA ABB=ON  DONOR#(1A) ACCEPTOR#
L66        15175 SEA ABB=ON  MASS(A) SPECTR?
L67        38006 SEA ABB=ON  WET? OR MIGRAT?
L68        10200 SEA ABB=ON  APPARATUS
L69            0 SEA ABB=ON  L58 AND (L59 OR L60 OR L61) AND L62 AND (L63 OR
                  L64)
L70          379 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64)
L71           49 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  (L65 OR L66 OR L67 OR L68)
L72            4 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND L63 AND L64
L73            1 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  L65
L74           19 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  L66
L75            0 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  L66 AND (L67 OR L68)
L76           22 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  L67
L77        12486 SEA ABB=ON  BINDING SITE#
L78            3 SEA ABB=ON  (L59 OR L60 OR L61) AND L62 AND (L63 OR L64) AND
                  (L66 OR L67) AND L77

     FILE 'BIOSIS' ENTERED AT 10:20:04 ON 23 AUG 2005
L79          988 SEA ABB=ON  KIM R?/AU
L80        57122 SEA ABB=ON  ?NUCLEIC?(W)ACID#
L81      1701849 SEA ABB=ON  PROTEIN#
L82       787147 SEA ABB=ON  ENZYME#
L83        93442 SEA ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L84        39152 SEA ABB=ON  FILM#
L85       117871 SEA ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE
                  OR ACRYL AMIDE)) OR AGAROSE#
L86         3280 SEA ABB=ON  DONOR#(1A)ACCEPTOR#
L87       101818 SEA ABB=ON  MASS(A)SPECTR?
L88       214650 SEA ABB=ON  WET? OR MIGRAT?
L89       236865 SEA ABB=ON  APPARATUS
L90       127119 SEA ABB=ON  BINDING SITE#
L91            0 SEA ABB=ON  L79 AND (L80 OR L81 OR L82) AND L83 AND (L84 OR
                  L85)
L92            6 SEA ABB=ON  L79 AND (L80 OR L81 OR L82) AND (L83 OR L84 OR
                  L85)
                  D SCAN
L93        22643 SEA ABB=ON  L3
L94           25 SEA ABB=ON  (L80 OR L81 OR L82) AND L83 AND L84 AND (L85 OR
                  L93)
L95            4 SEA ABB=ON  (L80 OR L81 OR L82) AND L83 AND L84 AND (L85 OR
                  L93) AND (L86 OR L87 OR L88 OR L89 OR L90)
L96           82 SEA ABB=ON  (L80 OR L81 OR L82) AND ((L83 OR L84 OR L85) OR
                  L93) AND L86

     FILE 'STNGUIDE' ENTERED AT 10:24:45 ON 23 AUG 2005

     FILE 'MEDLINE' ENTERED AT 10:25:05 ON 23 AUG 2005
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L97          783 SEA ABB=ON  KIM R?/AU
                 E NUCLEIC ACIDS+ALL/CT
L98       775309 SEA ABB=ON  NUCLEIC ACIDS+NT/CT
L99      2812440 SEA ABB=ON  D12.776./CT
L100      153583 SEA ABB=ON  ACRYLAMIDE OR POLYACRYLAMIDE OR (POLY(W)(ACRYLAMIDE
                  OR ACRYL AMIDE)) OR AGAROSE#
L101        5518 SEA ABB=ON  L3
L102           7 SEA ABB=ON  L97 AND (L100 OR L101)
                 D TRIAL 1-7
L103      929640 SEA ABB=ON  (L98 OR L99)(L)(AN OR CH OR IP)/CT
L104       45403 SEA ABB=ON  FILM#
L105       76887 SEA ABB=ON  IMMOBILI? OR SOLID(W)(SUPPORT# OR PHASE#)
L106         214 SEA ABB=ON  L103 AND L104 AND L105
                 D TRIAL 1-5
L107        6296 SEA ABB=ON  BIOSENSING TECHNIQUES/CT
L108        1270 SEA ABB=ON  L107(L)IS/CT
L109        1978 SEA ABB=ON  L107(L)MT/CT
L110          18 SEA ABB=ON  L106 AND L108 AND L109
                 D QUE
L111           0 SEA ABB=ON  L106 AND L108 AND L109 AND (L100 OR L101)
L112        3010 SEA ABB=ON  DONOR#(1A)ACCEPTOR#
L113      137634 SEA ABB=ON  WET? OR MIGRAT?
L114      225541 SEA ABB=ON  BINDING SITE#
L115       71943 SEA ABB=ON  SPECTRUM ANALYSIS, MASS+NT/CT
L116           0 SEA ABB=ON  L106 AND L107 AND L115
L117           2 SEA ABB=ON  L106 AND  L115
L118           0 SEA ABB=ON  L97 AND L107
L119        2080 SEA ABB=ON  L103 AND (L104 OR L100 OR L101) AND L115
L120           2 SEA ABB=ON  L103 AND L104 AND L105 AND L115
L121           2 SEA ABB=ON  L117 OR L120
L122          69 SEA ABB=ON  L103 AND L104 AND L105 AND L107
L123          18 SEA ABB=ON  L103 AND L104 AND L105 AND L108 AND L109
L124           1 SEA ABB=ON  L103 AND L104 AND L105 AND L108 AND L109 AND (L112
                  OR L113 OR L114)

     FILE 'STNGUIDE' ENTERED AT 10:34:30 ON 23 AUG 2005

     FILE 'CAPLUS' ENTERED AT 10:35:32 ON 23 AUG 2005
                 D QUE L1
                 D QUE L6
L125           1 SEA ABB=ON  L1 AND L6

     FILE 'WPIDS' ENTERED AT 10:35:34 ON 23 AUG 2005
                 D QUE L27

     FILE 'JICST-EPLUS, PASCAL, BIOTECHNO, ESBIOBASE, BIOTECHDS, CEABA-VTB'
     ENTERED AT 10:35:36 ON 23 AUG 2005
                 D QUE L54

     FILE 'CONFSCI, DISSABS' ENTERED AT 10:35:39 ON 23 AUG 2005
                 D QUE L69

     FILE 'BIOSIS' ENTERED AT 10:35:41 ON 23 AUG 2005
                 D QUE L91

     FILE 'MEDLINE' ENTERED AT 10:35:42 ON 23 AUG 2005
                 D QUE L118

     FILE 'CAPLUS, WPIDS' ENTERED AT 10:35:55 ON 23 AUG 2005
L126           1 DUP REM L125 L27 (1 DUPLICATE REMOVED)
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                    ANSWER '1' FROM FILE CAPLUS
                D IBIB ED ABS HITIND L126

     FILE 'STNGUIDE' ENTERED AT 10:36:17 ON 23 AUG 2005

     FILE 'CAPLUS' ENTERED AT 10:38:08 ON 23 AUG 2005
               D QUE L15
L127          12 SEA ABB=ON  L15 NOT L125

     FILE 'WPIDS' ENTERED AT 10:38:10 ON 23 AUG 2005
               D QUE L32
               D QUE L35
               D QUE L39
               D QUE L41
L128           8 SEA ABB=ON  L32 OR L35 OR L39 OR L41

     FILE 'JICST-EPLUS, PASCAL, BIOTECHNO, ESBIOBASE, BIOTECHDS, CEABA-VTB'
     ENTERED AT 10:38:15 ON 23 AUG 2005
               D QUE L57

     FILE 'CONFSCI, DISSABS' ENTERED AT 10:38:18 ON 23 AUG 2005
               D QUE L72
               D QUE L73
               D QUE L78
L129           8 SEA ABB=ON  L72 OR L73 OR L78

     FILE 'BIOSIS' ENTERED AT 10:38:21 ON 23 AUG 2005
               D QUE L95

     FILE 'MEDLINE' ENTERED AT 10:38:22 ON 23 AUG 2005
               D QUE L117
               D QUE L124
L130           3 SEA ABB=ON  L117 OR L124

     FILE 'MEDLINE, JICST-EPLUS, PASCAL, BIOTECHDS, CAPLUS, DISSABS, BIOSIS,
     WPIDS' ENTERED AT 10:38:48 ON 23 AUG 2005
L131          44 DUP REM L130 L57 L127 L129 L95 L128 (1 DUPLICATE REMOVED)
                    ANSWERS '1-3' FROM FILE MEDLINE
                    ANSWERS '4-6' FROM FILE JICST-EPLUS
                    ANSWER '7' FROM FILE PASCAL
                    ANSWERS '8-13' FROM FILE BIOTECHDS
                    ANSWERS '14-25' FROM FILE CAPLUS
                    ANSWERS '26-33' FROM FILE DISSABS
                    ANSWERS '34-37' FROM FILE BIOSIS
                    ANSWERS '38-44' FROM FILE WPIDS
               D IALL 1-13
               D IBIB ED ABS HITIND 14-25
               D IALL 26-44

FILE 'HOME' ENTERED AT 10:39:31 ON 23 AUG 2005


FILE HOME

FILE CAPLUS

Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.

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FILE COVERS 1907 - 23 Aug 2005 VOL 143 ISS 9
FILE LAST UPDATED: 22 Aug 2005 (20050822/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 AUG 2005 HIGHEST RN 861291-85-2
DICTIONARY FILE UPDATES: 22 AUG 2005 HIGHEST RN 861291-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 12, 2005 (20050812/UP).

FILE WPIDS
FILE LAST UPDATED: 18 AUG 2005 <20050818/UP>
MOST RECENT DERWENT UPDATE: 200553 <200553/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://thomsonderwent.com/coverage/latestupdates/ <<<

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>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
    GUIDES, PLEASE VISIT:
    http://thomsonderwent.com/support/userguides/                <<<

>>> NEW! FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT
    DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
    FIRST VIEW - FILE WPIFV.
    FOR FURTHER DETAILS: http://www.thomsonderwent.com/dwpifv  <<<

>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501.
    PLEASE CHECK:
http://thomsonderwent.com/support/dwpiref/reftools/classification/code-rev
    FOR DETAILS. <<<

FILE JICST-EPLUS
FILE COVERS 1985 TO 22 AUG 2005 (20050822/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE PASCAL
FILE LAST UPDATED: 22 AUG 2005        <20050822/UP>
FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE
    IN THE BASIC INDEX (/BI) FIELD  <<<

FILE BIOTECHNO
FILE LAST UPDATED: 7 JAN 2004        <20040107/UP>
FILE COVERS 1980 TO 2003.

>>>  BIOTECHNO IS NO LONGER BEING UPDATED AS OF 2004  <<<

>>>  SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
     /CT AND BASIC INDEX  <<<

FILE ESBIOBASE
FILE LAST UPDATED: 23 AUG 2005        <20050823/UP>
FILE COVERS 1994 TO DATE.

>>>  SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
     /CC, /ORGN, AND /ST  <<<

FILE BIOTECHDS
FILE LAST UPDATED: 10 AUG 2005        <20050810/UP>

>>> USE OF THIS FILE IS LIMITED TO BIOTECH SUBSCRIBERS <<<

>>> NEW CLASSIFICATION SYSTEM FROM 2002 ONWARDS - SEE HELP CLA <<<

>>> NEW DISPLAY FIELDS LS AND LS2 (LEGAL STATUS DATA FROM
    THE INPADOC DATABASE) AVAILABLE   -   SEE NEWS <<<

FILE CEABA-VTB
FILE LAST UPDATED: 28 JUL 2005        <20050728/UP>
FILE COVERS 1966 TO DATE

FILE CONFSCI
FILE COVERS 1973 TO 25 May 2005 (20050525/ED)
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FILE DISSABS
FILE COVERS 1861 TO 30 JUL 2005 (20050730/ED)

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 August 2005 (20050817/ED)

FILE RELOADED: 19 October 2003.

FILE MEDLINE
FILE LAST UPDATED: 20 AUG 2005 (20050820/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow promt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=>

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